# PETI
# FOR W
# CERTI

# ITION

# VRIT OF

# IORARI

(1) Supreme Court, U.S.
FILED

00-249 AUG 15 2000

OFFICE OF THE CLERK

No. 00-

IN THE

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA

*Respondent.*

**On Petition For a Writ of Certiorari To the United States Court of Appeals For the Federal Circuit**

## PETITION FOR A WRIT OF CERTIORARI

HARRY C. MARCUS
BARTHOLOMEW VERDIRAME
MORGAN & FINNEGAN, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

DONALD R. DUNNER
FORD F. FARABOW
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. EDWARD BRUCE
*(Counsel of Record)*
CHRISTOPHER N. SIPES
KEITH A. NOREIKA
COVINGTON & BURLING
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

*Attorneys for Petitioners*

9877

## QUESTIONS PRESENTED

1. Whether the Federal Circuit erred in upholding a patent's validity when it did not even acknowledge (a) that the patent application was filed in anticipation of regulatory requirements and would have been valueless if those requirements were not adopted, (b) that all of the claims in the original application were amended (in crucial respects contrary to the teachings of the patent) to resemble those regulatory requirements after they were promulgated, and (c) that the amended claims were not described in the original application but instead were merely among the more than one trillion possibilities encompassed by the patent application?

2. Whether the Federal Circuit erred in upholding a patent's validity when it imposed a limitation on the patent's claims that was not mentioned in the patent, was based on the intended use of the patented product, and was designed to avoid the defense of anticipation by prior art in conflict with this Court's holdings (a) that courts may not "include elements not mentioned in the claim in order to limit such claim and avoid a defense of anticipation," *McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895), and (b) that "[i]t is not an invention to perceive that the product which others had discovered" could be used in ways not previously perceived, *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 249 (1945)?

## PARTIES TO THE PROCEEDING AND RULE 29.6 DISCLOSURE

The following companies, petitioners here and appellants before the United States Court of Appeals for the Federal Circuit, have the parent corporations that own all of the stock in those companies as indicated below:

Atlantic Richfield Company
- BP America Inc.
- BP Amoco PLC

Chevron U.S.A., Inc.
- Chevron Corporation

Exxon Mobil Corporation

Mobil Oil Corporation
- Mobil Corporation
- Exxon Mobil Corporation

Shell Oil Products Company
- Shell Oil Company
- Shell Petroleum
- Royal Dutch Petroleum Company
- Shell Transport and Trading Company, p.l.c.

Texaco Refining and Marketing, Inc.
- Texaco Inc.

## TABLE OF CONTENTS


Page

QUESTIONS PRESENTED ..... i

PARTIES TO THE PROCEEDING AND RULE 29.6 DISCLOSURE ..... ii

TABLE OF CONTENTS ..... iii

TABLE OF AUTHORITIES ..... v

OPINIONS BELOW ..... 1

JURISDICTION ..... 1

STATUTES INVOLVED ..... 1

STATEMENT OF THE CASE ..... 2

REASONS FOR GRANTING THE WRIT ..... 9

I. THIS CASE PRESENTS ISSUES OF EXCEPTIONAL IMPORTANCE ..... 9

II. THE FEDERAL CIRCUIT'S INTERPRETATION OF THE WRITTEN DESCRIPTION REQUIREMENT IGNORES THE REGULATORY CONTEXT OF THIS CASE AND UPROOTS THE LONG-STANDING DOCTRINE THAT CAN PROTECT AGAINST ABUSE OF THE PATENT/ REGULATORY PROCESSES ..... 11

A. The Written Description Requirement Ensures That The Inventor Has Actually Invented What Is Later Claimed ..... 11

B. The Federal Circuit Erred By Ignoring The Interaction Of The Regulatory And Patent Processes ..... 13

C. The Federal Circuit's Decision Renders Federal Courts Powerless To Prevent Future Patent-Regulatory Gaming ..... 16

III. THE FEDERAL CIRCUIT'S HOLDING THAT THE UNOCAL PATENT WAS NOT ANTICIPATED BY PRIOR ART CONFLICTS WITH THIS COURT'S DECISIONS ..... 19

A. The Federal Circuit Contravened This Court's Decisions By Rewriting Unocal's Patent Claims ..... 21

B. The Federal Circuit Disregarded The Decisions Of This Court By Adding A New Limitation To Unocal's Patent Claims Based On The Intended Use of Unocal's Fuels. ..... 23

C. The Federal Circuit's Misuse of the Claim Construction Authority Granted By This Court In *Markman* Provides Further Support For Granting The Petition ..... 24

CONCLUSION ..... 26

## TABLE OF AUTHORITIES

**Page(s)**

***Cases***

*Ansonia Brass & Copper Co. v. Electrical Supply Co.*, 144 U.S. 11 (1892) ..... 20

*In re Barker*, 559 F.2d 588 (CCPA 1977) ..... 11

*Evans v. Eaton*, 20 U.S. (7 Wheat.) 356 (1822) ..... 11

*Fujikawa v. Wattanasin*, 93 F.3d 1559 (Fed. Cir. 1996) ..... 17

*General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945) ..... i, 20, 23, 24

*Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir. 1998) ..... 12

*In re Gosteli*, 872 F.2d 1008 (Fed. Cir. 1989) ..... 12

*Hercules Inc. v. Exxon Corp.*, 497 F. Supp. 661 (D. Del. 1980) ..... 17

*Lockwood v. American Airlines, Inc.*, 107 F.3d 1565 (Fed. Cir. 1997) ..... 12

*Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) ..... 5, 10, 25

*Martin v. Mayer*, 823 F.2d 500 (Fed. Cir. 1987) ..... 12

*McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110 (1895) ..... i, 20, 22, 24

*Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co.*, 315 U.S. 759 (1942) ..... 11, 26

*Pope Manufacturing Co. v. Gormully*, 144 U.S. 224 (1892) ..... 19

*Rohm & Haas Co. v. Mobil Oil Corp.*, 718 F. Supp. 274 (D. Del. 1989), *aff'd mem.*, 895 F.2d 1421 (Fed. Cir. 1990) ..... 17

*In re Ruschig*, 379 F.2d 990 (CCPA 1967) ..... 6, 7, 17, 18

*Smith v. Nichols*, 88 U.S. (21 Wall.) 112 (1874) ..... 7, 20

*SmithKline Beecham Consumer Healthcare, L.P. v. Watson Pharmaceuticals, Inc.*, 211 F.3d 21 (2d Cir. 2000), *cert. pending*, No. 00-19 ..... 14

*Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555 (Fed. Cir. 1991) ..... 12

***Statutes***

28 U.S.C. § 1254(1) ..... 1

35 U.S.C. § 101 ..... 19

35 U.S.C. § 102 ..... 1, 19

35 U.S.C. §112 ..... 1, passim

35 U.S.C. §132 ..... 11

35 U.S.C. § 251 ..... 25

35 U.S.C. § 252 ..... 25

***Miscellaneous***

*Midwest Gasoline Prices*, Presented by FTC Chairman Robert Pitofsky, Before the Committee on Commerce, U.S. House of Representatives (June 28, 2000), www.FTC.gov/OS/2000/06/gasolinecommerce.htm ..... 10

*Summer Energy Concerns For The American Consumer:* Hearings Before Committee on Commerce, U.S. House of Representatives, (June 28, 2000), www.house.gov/commerce/ ..... 10

S. Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* (1993) ..... 13

Donald S. Chisum, CHISUM ON PATENTS (2000) ..... 12, 19, 20

## PETITION FOR A WRIT OF CERTIORARI

## OPINIONS BELOW

The opinion of the court of appeals (App. 1a-31a) is reported at 208 F.3d 989. The opinions of the district court denying Petitioners' motion for summary judgment (App. 32a-47a) and for judgment as a matter of law (App. 48a-56a) are not reported.

## JURISDICTION

The decision of the court of appeals was entered on March 29, 2000. A timely petition for rehearing was denied on May 18, 2000 (App. 57a). This Court's jurisdiction rests on 28 U.S.C. § 1254(1).

## STATUTES INVOLVED

Section 102 of Title 35, U.S. Code provides in pertinent part:

> A person shall be entitled to a patent unless—
>
> * * *
>
> (b) the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country, more than one year prior to the application for patent in the United States, . . .

Section 112 ¶ 1 of Title 35, U.S. Code provides in pertinent part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly

> connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention . . . .

## STATEMENT OF THE CASE

This case has important ramifications for consumers, gasoline refiners, and regulators. The undisputed facts show that Respondent ("Unocal") filed a broad patent application in anticipation of regulations mandating "cleaner" gasolines, amended its patent claims (in crucial respects contrary to the teachings of the patent) to "resemble" those regulatory requirements after they were promulgated, and thereby placed Petitioners ("Refiners") in a regulatory/patent law vise. The Federal Circuit wholly ignored this exploitation of the patent and regulatory processes, while simultaneously uprooting long-settled law under 35 U.S.C. §112 that served as the only bulwark in patent law against this abuse. Its decision also conflicts with two of this Court's decisions by judicially imposing a new limitation on product patent claims that was designed to avoid prior art and by basing that limitation upon the new intended use of an old product.

In 1990, the California Air Resources Board ("CARB") proposed reformulated gasoline ("RFG") regulations designed to reduce automotive emissions. Three months later and without advising CARB, Unocal filed a patent application for "unleaded gasoline fuel[s] suitable for combustion in an automotive engine," with specified properties designed to reduce auto emissions: *decreased* temperatures at which 10%, 50%, and 90% of the gasoline boils away (the "T10," "T50," and "T90" points), vapor pressure ("RVP"), and olefins (one of the three types of gasoline hydrocarbons); *increased* paraffins and aromatics

(the two other types of gasoline hydrocarbons), as well as octane. JA447. Although initially filing 60 claims with combinations of these properties,[1] Unocal's application recited ranges of these properties that potentially encompassed more than one *trillion* possible combinations. JA742-43. Unocal admitted that its application was filed in anticipation of CARB's final regulations. JA379, 564-65. Many of the property ranges simply incorporated existing legal limits, *see* p. 15-16, *infra*, thus positioning Unocal to "mix or match" various properties to correspond with CARB's subsequent requirements.

In November 1991, CARB adopted its final regulations. JA528, 571-72. Unocal then amended all of its claims in a manner which one of the inventors conceded "resembled" CARB's regulations, JA562, and which contradicted the teachings of Unocal's patent application[2]:

• Unocal's patent application identified a *decrease* in T10 to 140° F or preferably 120° F as among the four "most significant" ways to reduce emissions. JA465. However, CARB did not limit T10, and Unocal then amended its claims to *increase* the T10 limit to 158° F – the *maximum* allowed by the preexisting industry standard. JA594-96; JA472.

• The application taught a decrease in olefins to "essentially zero" as "providing the best results possible." JA465. However, CARB adopted an olefin flat limit of 6%, an average limit of 4%, and a cap of 10%. All but one of the

---

1 A trial exhibit (JA397) showing Unocal's original claims is reproduced at App. 58a-61a.

2 A trial exhibit (JA472) showing the 41 amended Unocal claims now at issue is reproduced at App. 62a-64a.

amended claims limiting olefins specify the 4%, 6%, or 10% limitation mandated by CARB.

• Unocal's patent application taught that emissions can be reduced by *increasing* aromatics to at least 35%. JA465. However, when CARB instead *limited* aromatics to 25% and imposed no minimum requirements, JA573.2, Unocal dropped the minimum aromatics limitation from its claims.

Had Unocal's claims adhered to the teachings of its patent application, Refiners could have made CARB-compliant gasolines with T10 above the 140° F limits in the original claims, but below the 158° F legal limit, and with olefins above the essentially 0% taught by the patent, but below the 4%, 6%, 10% CARB caps. Evincing the patent-regulatory vise into which Unocal thus placed Refiners by amending its claims to "resemble" CARB, a Unocal representative stated, after the patent was issued and was first made known to CARB and Refiners, "that almost any gasoline that would be practical to make and meet the [CARB] requirements would fall under the scope of our patent." JA473.[3]

Refiners filed this action seeking a declaratory judgment that Unocal's patent is invalid. They promptly moved for summary judgment on the ground that all of Unocal's claims were anticipated by prior unleaded gasolines, including automobile racing gasolines, which met all of the specific property limitations of Unocal's claims

---

[3] Unocal's patent as issued on February 22, 1994, contained 224 claims. However, Unocal filed two statutory disclaimers (including one in July 1995, after this action was filed) canceling 183 claims, leaving the 41 now at issue. JA439-42. Moreover, it kept the application alive and obtained four additional patents with more than 800 claims. U.S. Patent Nos. 5,593,567; 5,653,866; 5,837,126; and 6,030,521.

(*e.g.*, RVP, T10, olefins) and were "suitable for combustion in an automotive engine" because they met industry standards for the sale of gasoline to the general public for use in automobiles.

The district court denied the motion, ruling that even though the preamble to Unocal's claims states that they include all "unleaded gasoline fuel, suitable for combustion in an automotive engine," the claims were subject to a further limitation – nowhere found in the patent – *i.e.*, "traditional motor gasoline[s] to be mass-produced at typical refineries for the general motoring public." App. 47a. The district court stated that it imposed this limitation on the claims "specifically to distinguish [Unocal's] fuels from [prior] specialized fuels such as racing and aviation fuels," App. 52a, which would otherwise have invalidated Unocal's patent.

With this "construction" of the patent's claims and the added instruction that fuels which were "merely suitable" for combustion in an automotive engine would not anticipate Unocal's patent, JA774, the jury rejected Refiners' defense that the "invention" was anticipated by prior unleaded racing and aviation gasolines. The jury also rejected Refiners' defense that Unocal's claims lacked the "written description" required by 35 U.S.C. § 112 to establish that Unocal had actually invented the fuels later described in its amended claims when it filed that application in 1990.[4] The jury awarded Unocal a "reasonable" royalty of 5.75 cents for every gallon of infringing gasoline. Refiners' liability for March-July 1996 alone – the first year they were required to sell CARB-compliant gasolines – is $82.9 million. JA6.

---

[4] As required by § 112 ¶¶ 1 & 2, Unocal's patent, JA447, consists of a specification and one or more claims. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996).

A divided panel of the Federal Circuit (Mayer and Rader, Lourie dissenting) affirmed. The panel majority first upheld the district court's "claim construction" and resultant holding that Unocal's patent was not anticipated by prior art. (Because he would have invalidated the patent under § 112, Judge Lourie did not address this issue.) Although the panel majority agreed that the patent claims "compositions of matter" and that composition claims cannot be limited to "only certain uses of that composition," App. 10a, it nevertheless affirmed the district court's limitation of the patent claims to only those "fuels that will regularly be used in autos."

Like the district court, the panel majority based this limitation on Unocal's purpose of reducing auto emissions by the widespread use of RFG. App. 12a. It accordingly held that prior automobile racing and aviation unleaded gasolines were not the same compositions as the "standard automotive" gasolines "invented" by Unocal. In holding that these prior art fuels did not anticipate Unocal's "invention," the panel majority did not discuss the uncontested evidence that these unleaded gasoline fuels satisfied all the specific property limitations of the claims and were "suitable for combustion in an automotive engine."

The panel majority also rejected Refiners' argument that Unocal's original patent application failed to comply with 35 U.S.C. § 112, even though it agreed that the application must "clearly allow persons of ordinary skill in the art to recognize that [the applicant] invented what is [later] claimed." App. 13a (citation omitted). In holding that Unocal's patent satisfied this standard, the panel majority refused to apply *In re Ruschig*, 379 F.2d 990 (CCPA 1967) (and its progeny, *see* p. 17, n.9, *infra*), which held that a later-added claim to a specific chemical composition was not sufficiently described in the original application when it was only one of the half-million combinations potentially encompassed by the original patent application.

First, the panel majority held that *Ruschig* "involved a copied claim," so that "it is not surprising that the disputed claim did not find support in Ruschig's specification . . . ." App. 20a. In so holding, the panel majority ignored Refiners' argument that *Ruschig* applies *a fortiori* here because Unocal's claims were concededly amended to "*resemble*" CARB's regulations.

Next, the panel majority held that it is proper to "narrow" claims during prosecution and that § 112 questions "should be dealt with on a case-by-case basis." App. 21a. Again, the panel majority ignored Refiners' argument that Unocal *broadened* its claims – raising T10 to the 158° F legal limit and abandoning an aromatics limitation – after CARB issued its regulations, and that this is the *worst case* example of a § 112 violation because it involves the amendment of patent claims tailored to regulatory requirements.

Finally, the panel majority acknowledged that *Ruschig* requires that the patent application must provide "blaze marks" to newly added or amended claims when they are merely part of a "forest of trees" described generally in an application. App. 21a. However, it concluded that Unocal had provided sufficient "blaze marks." In so holding, the panel majority ignored Refiners' argument that here there were one trillion – a world, not a forest – of potential claims and that it was CARB, not Unocal, who provided the "blazemarks" to the amended claims. In fact, neither this nor any other part of the opinion even mentions CARB or its regulations.

Judge Lourie dissented, concluding that Unocal's claims were invalid for lack of a written description, even without regard to Unocal's exploitation of the CARB regulatory process. The dissent noted that the patent contains only general descriptions of how to make fuel compositions, but does not describe any of the ultimately claimed

compositions: "It is in fact undisputed that the specification discloses no distinct embodiments corresponding to *any* claim at issue." App. 24a (emphasis added). Continuing, he stated (App. 27a):

> The simple direction to adjust more than one fuel characteristic at a time does not direct one to, and thus does not show possession of, any of the claimed combinations of fuel characteristics. One must pick and choose among eight different types of fuel characteristics, broadly described, in order to arrive at any of the claimed combinations.

Judge Lourie, therefore, concluded that Unocal's written description failed to meet the "full, clear, concise, and exact" language requirement of § 112 ¶ 1. App. 27a.

Refiners petitioned for rehearing and rehearing en banc, and the State of California and CARB filed an amicus brief urging the Federal Circuit to decide the "important public policy question: whether the courts of the United States should allow companies to use patent laws to distort government administrative processes." Calif. Amicus Br. 2. *See also*, *id.* at 6, noting that "[t]he actual monetary value of the [Unocal] patent stems mostly from the fact that it covers activities required by [CARB's] regulations," and that Unocal used the CARB administrative process "to create an anti-competitive grasp on the market." The Federal Circuit denied the petition without even asking Unocal to respond to Refiners' and California's submissions.

## REASONS FOR GRANTING THE WRIT

### I. THIS CASE PRESENTS ISSUES OF EXCEPTIONAL IMPORTANCE

This case has significant ramifications that extend to all refiners of gasoline in California, the consumers who purchase their gasolines, and more recently to the rest of the Nation as well. Unocal's economic expert at trial documented the impact that its 5.75 cent per gallon royalty could have on consumers: He assumed that the Refiners would pass on 90% of this royalty, Tr. 5669, and in his "expert opinion" consumers "ought to be happy to pay 4 or 5 cents . . . of this royalty to Unocal to help fund these payments," Tr. 5670.

The Environmental Protection Agency has recently imposed federal auto emission standards under the Clean Air Act, effective June 30, 2000, which require Refiners and others to lower RVP and take other actions that Unocal will doubtless argue infringes Unocal's patents.[5] Consequently, Unocal not only obtained a patent on California regulatory standards, but also it can now try to exploit federal regulatory requirements. The Federal Trade Commission has recently reported large increases in gasoline prices (especially in the Midwest) where new RFG requirements have been imposed. The FTC specifically noted that the Federal Circuit's decision

> upholding Unocal's patent for some formulations of RFG may have caused some refineries to change RFG blends in an apparent effort to avoid infringement or high

---

[5] *See* p. 4, n.3, *supra*, referring to the four additional patents with 800 claims that Unocal has subsequently derived from the patent application at issue here.

> royalty payments, leading to production delays and decreased refinery throughput.

*Midwest Gasoline Prices*, Presented by FTC Chairman Robert Pitofsky, Before the Committee on Commerce, U.S. House of Representatives (June 28, 2000), available at www.FTC.gov/OS/2000/06/gasolinecommerce.htm. *See also Summer Energy Concerns For The American Consumer:* Hearings Before Committee on Commerce, U.S. House of Representatives, (June 28, 2000), available at www.house.gov/commerce/ (CITGO testimony that Unocal's patents caused it to reduce production of new EPA-required gasolines from 15,000 to 4,000 barrels per day).

The Federal Circuit completely ignored the regulatory context in which this case arises. That omission might be tolerable if the patent laws provided federal courts with no tools to deal with "inventors" who file broadly worded patent applications in anticipation of regulations and then amend their claims to resemble those regulations after they are issued. However, under long-established caselaw, the written description requirement of § 112 could have prevented the kind of manipulation of the patent and regulatory processes that occurred in this case. But rather than apply § 112 for that purpose, the Federal Circuit warped and distorted § 112, effectively disabling federal courts in patent cases from addressing this kind of abuse.

Moreover, the Federal Circuit embraced an approach to claim construction – *i.e.*, that an unstated limitation can be judicially read into Unocal's claims based on the intended use of Unocal's "invented" fuels to avoid prior art that otherwise would have invalidated the patent – which defies two of this Court's long-standing patent law decisions and oversteps the authority given to the Federal Circuit by this Court's 1996 decision in *Markman*.

Thus, this case presents a confluence of important questions of patent law that will certainly affect millions of

automobile drivers in California if Refiners are forced to pay a 5.75 cent per gallon royalty to Unocal, may well affect many millions more throughout the rest of the Nation, and unquestionably rewards – and thereby invites – misuse of the patent system.

## II. THE FEDERAL CIRCUIT'S INTERPRETATION OF THE WRITTEN DESCRIPTION REQUIREMENT IGNORES THE REGULATORY CONTEXT OF THIS CASE AND UPROOTS THE LONG-STANDING DOCTRINE THAT CAN PROTECT AGAINST ABUSE OF THE PATENT/ REGULATORY PROCESSES

### A. The Written Description Requirement Ensures That The Inventor Has Actually Invented What Is Later Claimed

The written description requirement of the patent laws has existed since the original 1793 Patent Act. *See In re Barker*, 559 F.2d 588, 592 (CCPA 1977). As the Court recognized nearly 200 years ago, this statutory requirement was designed, *inter alia*, to protect the public from the inventor "'pretending that his invention is more than what it really is, or different from its ostensible objects.'" *Id.* at 592 n.4 (quoting *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, 434 (1822)). *Cf. Muncie Gear Works, Inc. v. Outboard, Marine & Mfg. Co.*, 315 U.S. 759, 768 (1942) (added claims invalid because not entitled to filing date of original application as prohibited "new matter" under 35 U.S.C. § 132, where the original application "wholly failed to disclose the invention now asserted").

To guard against this abuse of the patent system, 35 U.S.C. § 112 provides that "[t]he specification shall contain a written description of the invention," which courts have long interpreted as requiring a "description [that] must be

sufficiently clear that persons of skill in the art will recognize that the applicant made the invention." *Martin v. Mayer*, 823 F.2d 500, 505 (Fed. Cir. 1987). Consequently, it is not sufficient that a patent application enables a person to practice the invention.[6] Rather, the *original* application must show that the inventor was *then* "'in possession' of the invention by describing the invention, with *all* its claimed limitations . . . ." *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis added).

Thus, the requirement of written description "guards against the inventor's overreaching":

> Satisfaction of the description requirement insures that subject matter presented in the form of a claim *subsequent to the filing date of the application* was sufficiently disclosed at the time of filing so that the prima facie date of invention can fairly be held to be the filing date of the application.

*Vas-Cath, Inc.*, 935 F.2d at 1561-1562 (internal quotations omitted) (emphasis added). *See also Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479 (Fed. Cir. 1998) ("patent specification 'must clearly allow persons of ordinary skill in the art to recognize that [applicant] invented what is claimed'" (quoting *In re Gosteli*, 872 F.2d 1008, 1012 (Fed. Cir. 1989)).

---

[6] *See Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991) ("The purpose of the 'written description' requirement is broader than to merely explain how to 'make and use' [the invention]; the applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention."); 3 Donald S. Chisum, CHISUM ON PATENTS § 7.04 (2000) ("Claims can be . . . barred by the description requirement even though the original specification adequately teaches how to make and use the subject matter of the claims.").

### B. The Federal Circuit Erred By Ignoring The Interaction Of The Regulatory And Patent Processes

This case at its core involves the intersection of patent and regulatory law – a point that Refiners repeatedly emphasized in their briefs and at oral argument, but the Federal Circuit ignored. Unocal has never claimed that the adjustments of the properties identified in its patent were intended to satisfy consumer demands or make gasoline cheaper. To the contrary, CARB estimated Refiners would have to invest $7 *billion* to modify their refineries to meet CARB requirements, Tr. 766. In these circumstances, the imposition of regulatory requirements was essential for large-scale manufacture and sale of the gasolines claimed in Unocal's patent. Unsurprisingly, Unocal conceded at trial that it had never commercially produced low-emission gasoline until CARB required it to do so. Tr. 528.

Moreover, because the adjustment of the various properties identified in the Unocal patent for reducing auto emissions comes at a financial cost, no "inventor" could determine the appropriate balance between the additional costs associated with these adjustments and the increased benefits to society associated with lowering emissions. Only regulators – here, CARB or EPA – can weigh such costs and benefits to determine the "right" balance.[7] However, Unocal

---

[7] *See* S. Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* 10 (1993):

> [T]he risk manager will consider what will be likely in fact to occur should he choose each of several regulatory options . . . . To what extent will the regulation deprive users of benefits the substance now brings? To what extent will it impose added costs? . . . Ultimately, in light of the identified risks, the risks associated with alternatives, the effect on benefits, the costs, and

(...continued)

did not reveal to CARB, EPA, or anyone else the existence of its patent application. Instead, Unocal participated with the rest of the oil industry in CARB's decision-making process, waited for CARB to make its regulatory decisions, and then scrapped all of the original claims and substituted amended claims to "resemble" the CARB regulations.

The Federal Circuit completely ignored the relationship between Unocal's patent and the regulatory process. The words "CARB," "regulation" or their synonyms do not appear anywhere in the court's opinion, even though Refiners repeatedly argued that Unocal had *a fortiori* violated the § 112 requirement of a "full, clear, concise, and exact" written description by virtue of its exploitation of the CARB regulatory process.

A Second Circuit decision, handed down after the one at issue here, starkly highlights the Federal Circuit's disregard of the regulatory aspects of this case. In *SmithKline Beecham Consumer Healthcare, L.P. v. Watson Pharmaceuticals, Inc.*, 211 F.3d 21, 29 (2d Cir. 2000), *cert. pending*, No. 00-19, the court held that the "purpose of the copyright laws – to encourage the production of creative works by according authors a property right in their works so that authors will not have to share profits from their labors with free riders – is not seriously implicated" when the materials were generated to meet an FDA regulatory requirement and the copyright holder registered them shortly before the FDA approved the marketing of a competitor's products. Thus, in *SmithKline*, the Second Circuit found that the correspondence of the copyrighted materials to a statutorily mandated regulatory standard resulted in the loss of the copyright holder's intellectual property rights. *Id.*

---

the practicalities, the risk managing regulator will reach a decision.

In this case, the Federal Circuit ignored clear, abundant, and undisputed evidence of Unocal's gaming of the regulatory and patent processes:

- Unocal's original application was filed in anticipation of regulatory requirements that would later be imposed by CARB and set forth long lists of gasoline properties that in many respects simply corresponded to then-existing legal requirements – *e.g.*, all RVPs below 8.0, JA465, when CARB's then-applicable interim regulations limited RVP to 7.8, JA5782;[8] all olefins below 15%, the legal limit, JA588.

- These property values can be combined in more than one *trillion* ways.

- After CARB issued its final regulations in November 1991, Unocal admittedly amended all of its claims to "resemble" CARB's requirements.

- Those amendments contradicted the teachings of Unocal's patent application – *e.g.*, the maximum T10 taught and originally claimed by the patent was 140° F, but when CARB failed to limit T10, Unocal amended its claims to include gasolines with T10s of up to 158° F – the legal limit for T10. When CARB did not require the 0% or near 0% olefins taught by Unocal's patent application, Unocal amended its claims to track CARB's 4%, 6%, 10% requirements. And when CARB decided not to require aromatics, Unocal dropped its corresponding requirement.

- If Unocal had stuck with the teachings of its patent application without amending its claims to "resemble" CARB, Refiners could have made CARB-compliant

---

[8] 38 of Unocal's 60 original claims set RVP at ≤ 8.0° F. App. 58a-61a.

gasolines with T10s above the 140° F limit in the original application, but below the 158° F legal limit, and with olefins above the near 0% limitations, but below the CARB caps.

• Unocal's intention in amending its claims was clearly revealed by a spokesperson who was quoted as announcing after the patent issued "that almost any gasoline that would be practical to make and meet the [CARB] requirements would fall under the scope of our patent." JA473.

Had the Federal Circuit acknowledged *any* of these clear instances of regulatory gaming of the patent process, it would have been forced to conclude that the written description was inadequate under § 112.

Indeed, as Judge Lourie clearly showed in his dissent, had the court applied the proper § 112 standard without regard to the regulatory dimensions of this case, "[a] reasonable juror could not find that the application shows possession of those [claimed] combinations . . . by blazing a clear trail to them." App. 27a.

### C. The Federal Circuit's Decision Renders Federal Courts Powerless To Prevent Future Patent-Regulatory Gaming

The Federal Circuit's disregard of the regulatory dimensions of this case is reason enough for this Court to grant certiorari. But even greater harm will result from its evisceration of the long-standing doctrine under § 112 that stood as the only bulwark against gaming of the regulatory and patent regimes. Ironically declaring that it would not let "form triumph over substance," App. 21a (internal citation and quotation omitted), the panel majority effectively removed from the patent laws the time-honored principle that an applicant must show at the time of the original filing of the patent application that he or she had actually invented what is later claimed after amendments to the patent.

The Court of Customs and Patent Appeals ("CCPA"), the predecessor to the Federal Circuit, explained that the written description requirement was like a trail in a forest in cases like this one, when amended claims simply fall within the myriad claims potentially contemplated by a patent application:

> It is an old custom in the woods to mark trails by making blaze marks on the trees. It is no help in finding a trail or in finding one's way through the woods where the trails have disappeared – or have not yet been made, which is more like the case here – to be confronted simply by a large number of unmarked trees. Appellants are pointing to trees. We are looking for blaze marks which single out particular trees. We see none.

*In re Ruschig*, 379 F.2d at 994-95.

In *Ruschig*, the patent specification disclosed three variables for chemical compositions, and the court noted that, "[i]f the proper choices of the three variables in the ... formula are made, the compound in question is produced, *but nowhere in the specification is the particular selection indicated.*" 379 F.2d at 993 (emphasis added). The CCPA held that "the general disclosure of the application encompasses something like half a million possible compounds," and accordingly found that the claim was invalid for lack of a written description. *Id.*

*Ruschig* and its progeny apply *a fortiori* here.[9] Instead of the half-million potential combinations of three

---

[9] *See, e.g., Fujikawa* v. *Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996) (condemning "laundry list" patent applications and holding that "simply describing a large genus of compounds is not sufficient to satisfy (...continued)

variables in *Ruschig*, Unocal's application encompassed more than *one trillion* combinations of eight variables. Moreover, Unocal's claims were admittedly amended to "resemble" CARB's requirements and, accordingly, those claims in important respects contradict the "blazemarks" of the patent – *e.g.*, T10 went up, not down.

Instead of applying *Ruschig* and its progeny – the panel majority purported to distinguish those cases by limiting them to cases where claims are copied, while ignoring Unocal's testimony that it had amended its claims to "*resemble*" CARB's regulations, and by holding that claims can be narrowed during prosecution, again ignoring that many of Unocal's claims were *broadened* to resemble CARB's regulations – *i.e.*, when maximum T10 was raised to 158° F and the aromatics limitation was abandoned. The Federal Circuit's decision in this case has effectively nullified § 112 as a device for dealing with abuses at the intersection of the patent and regulatory processes.

Given the Federal Circuit's lack of concern with this issue, evident in its failure even to ask Unocal on rehearing to respond to Refiners' and California's arguments highlighting Unocal's manipulation of the patent and regulatory systems, action by this Court is required to preserve the patent law tools for limiting this abuse made available by § 112.

---

the written description requirement as to particular species or sub-genuses"); *Rohm & Haas Co.* v. *Mobil Oil Corp.*, 718 F. Supp. 274, 310 (D. Del. 1989) (application disclosing a broad genus encompassing billions of compounds did not support later-added claims to sub-genera, where "there was no direction or guidance for the subgenera now claimed"), *aff'd mem.*, 895 F.2d 1421 (Fed. Cir. 1990); *Hercules Inc.* v. *Exxon Corp.*, 497 F. Supp. 661, 683 (D. Del. 1980) (patent that encompasses "perhaps a million or more" potential compounds, without specifying those set forth in the patent's amended claims, invalid under § 112).

## III. THE FEDERAL CIRCUIT'S HOLDING THAT THE UNOCAL PATENT WAS NOT ANTICIPATED BY PRIOR ART CONFLICTS WITH THIS COURT'S DECISIONS

Unocal's actions discussed above would be bad enough if it had patented a new product, even though "invented" in large part by CARB. They are even worse when Unocal's patent is understood for what it is – the improper patenting of an old product that escaped invalidity when Unocal persuaded the courts to create a limitation on the claims that is nowhere mentioned in the patent and is based on the intended use of the product.

An invention is not patentable unless it is "new." 35 U.S.C. § 101. "Th[is] novelty requirement lies at the heart of the patent system." 1 CHISUM § 3.01, at 3-3. To protect an invention that is not in fact novel from competition would only serve to grant the inventor monopoly rents with no corresponding benefit to society. "It is as important to the public that competition should not be repressed by worthless patents, as that the patentee of a really valuable invention should be protected in his monopoly ...." *Pope Manufacturing Co. v. Gormully*, 144 U.S. 224, 234 (1892).

The patent laws therefore provide that an inventor may not obtain a patent for an invention that is "anticipated," *i.e.*, that is completely taught in the "prior art." *See* 35 U.S.C. § 102. A "composition of matter" patent is anticipated when its claim limitations are found in an another composition that was made, sold or described in a printed publication more than one year prior to the filing of the patent holder's application. *Id.* § 102(b). That is *exactly* what happened here. *Compare* Unocal claim 71, "an unleaded gasoline suitable for combustion in an automotive engine" with RVP up to 7.0, T50 up to 205° F, olefins below 10%, octane at least 92 (App. 62a), *with* Phillips Unleaded Racing Gasoline which satisfied industry standards and was

"suitable for combustion in an automotive engine" with RVP 6.5 (below 7.0), T50 204° F (below 205° F), olefins 0% (below 10%), octane 97 (above 92); JA553-55.

This Court has expressly instructed lower courts *not* to read additional limitations into patent claims to avoid prior art that anticipates the patent:

> [W]e know of no principle of law which would authorize us to read into a claim an element which is not present, for the purpose of making out a case of novelty or infringement. The difficulty is that, if we once begin to include elements not mentioned in the claim in order to limit such claim and avoid a defence of anticipation, we should never know where to stop.

*McCarty,* 160 U.S. at 116. Notwithstanding this admonition, the Federal Circuit rejected Refiners' anticipation defense by adding, under the guise of claim construction, a limitation not mentioned in Unocal's claims or anywhere else in its patent. App. 12a.

Moreover, this new limitation was based on the Federal Circuit's perception of Unocal's new intended widespread use of the fuels which it claimed to have invented – *i.e.*, to address the smog problem. App. 11a. Thus, the Federal Circuit's decision also conflicts with *General Electric Co.*, 326 U.S. at 248, which held that "[i]t is not an invention to perceive that the product which others had discovered had qualities they failed to detect." *See also Ansonia Brass & Copper Co. v. Electrical Supply Co.*, 144 U.S. 11, 19 (1892) ("'a mere carrying forward, or new or more extended application of the original thought . . . is not such [an] invention as will sustain a patent.'" (quoting *Smith v. Nichols*, 88 U.S. (21 Wall.) 112, 119 (1874)); 1 CHISUM § 3.02[3] ("anticipation is not avoided by the discovery of a

new use, property, or advantage of an old product or process").

### A. The Federal Circuit Contravened This Court's Decisions By Rewriting Unocal's Patent Claims

The panel majority correctly recognized that each of the claims of Unocal's patent begins with the preamble, "[a]n unleaded gasoline fuel suitable for combustion in an [or 'a spark ignition'] automotive engine," App. 2a-3a, and that the claims then "specify the chemical properties of the gasolines," App. 3a. As Judge Lourie recognized, "[w]e only have claims defining compositions by *a specific set of claim limitations*." App. 29a (emphasis added).

Moreover, the panel majority did not dispute (i) that the specific property limitations of its claims are found in prior unleaded racing gasolines and aviation fuels (*e.g.*, JA750-51);[10] (ii) that these prior art fuels are "unleaded gasolines" within the definitions provided by the patent (JA460-61); and (iii) that all of the prior art unleaded gasolines relied upon by Refiners are "suitable for combustion in an automotive engine" because they satisfy the American Society for Testing and Materials ("ASTM") Standard Specification for Automotive Spark-Ignition Engine Fuel (JA5933). In fact, prior to its patent application, Unocal marketed its own unleaded racing gasoline by advertising to the general public that it:

---

10 *E.g.*, Phillips Unleaded Racing Gasoline. *See* p. 19-20, *supra*. The panel majority's statement that, while "some properties of . . . racing fuels coincide with the properties of the '393 patent's claims, the record does not show the presence of each and every limitation," App. 12a, is *not* based upon the specific property limitations recited in the claims. Instead, it is based solely on the "traditional" or "standard motor gasoline" limitation imposed by the courts in this case.

> meets all federal . . . standards for automotive gasolines . . . [and] is ideal for all . . . street vehicles requiring Unleaded gasolines . . . . Hundreds of Unocal service stations nationwide now offer this product for sale to the public.

JA330.1-330.2; *see also* JA446 ("[m]arketed alongside our High Performance 92 . . ., Unocal 100 . . . racing gasoline is the natural extension of our product line.")

Although the claims' preamble broadly includes *all* "unleaded gasoline fuel suitable for combustion in an automotive engine," the district court instructed the jury that a prior art gasoline – like unleaded racing gasoline – which *is* "suitable" for combustion in an automotive engine would not anticipate Unocal's claims. JA774. Instead, contrary to *McCarty*, the district court instructed the jury that the patent covers "only unleaded gasoline fuels intended for regular use in automobiles. That is *traditional* motor gasoline to be mass produced at typical refineries for the general motoring public." JA773 (emphasis added). The district court acknowledged that its "intended use" limitation "identified traditional motor fuels for the general motoring public *specifically to distinguish* these fuels from specialized fuels such as racing and aviation fuels." App. 52a. (emphasis added).

The terms "traditional motor gasoline" (the district court's limitation) or "standard automotive gasoline" (the Federal Circuit's) cannot be found *anywhere* in the patent. Indeed, the patent clearly teaches that the claims were not limited to gasolines intended for widespread public use. Only "[t]he most preferred" – not all – of the invented gasolines satisfy the ASTM industry standard, JA461, for sale to the public, JA594. Plainly, gasolines that cannot even be sold to the public are not limited to "traditional" or "standard" gasolines.

### B. The Federal Circuit Disregarded The Decisions Of This Court By Adding A New Limitation To Unocal's Patent Claims Based On The Intended Use of Unocal's Fuels.

The Federal Circuit recognized that the district court had construed the claims as being limited to "fuels that will *regularly* be used in autos," App. 10a, without even pausing to note that this was merely a statement of intended use. It then asserted, without explanation or record support, that "[t]he district court thus construed the claims to cover only a narrow class of *fuel compositions*, namely only standard automotive gasoline" and "excluded from claim scope a broader class of *petroleum formulations* such as aviation fuels or racing fuels." *Id.* (emphasis added). In this fashion, the Federal Circuit added its own undefined limitation – "standard automobile fuel" which it derived from its and the district court's perception of the intended use of Unocal's fuels.[11]

The Federal Circuit's assertion that "[t]he district court's interpretation also finds extensive support in the specification," App. 11a, also demonstrates its departure from *General Electric*'s proscription of patenting a

---

[11] The district court failed to give the jury *any* guidance as to how it could distinguish the invented "fuel compositions" from prior art "petroleum formulations" and conceded that "no one has defined the phrase traditional motor fuel." JA659.1. The panel majority similarly did not identify the purportedly "narrow class of fuel compositions" of "standard automobile gasoline[s]" that will "*regularly* be used in autos," except to distinguish them from Refiners' prior art "aviation fuels or racing fuels." App. 10a. Certainly, the panel majority's observation that "[t]he claim language specifies fuels for an 'automotive engine' not an aviation engine," App. 10a-11a, cannot rationally exclude unleaded racing gasoline fuels that are used *solely in automotive engines*.

composition based upon its potentially new intended use. The Federal Circuit's imposition of a "standard automobile fuels" limitation was avowedly based on the "problem that [the] invention addressed . . . (i.e., 'smog')" caused by a "great number of automobiles." *Id.* Clearly, the Federal Circuit relied on the inventors' intention regarding the widespread *use* of their product to impose a new limitation narrower than the one found in the claims themselves: Prior unleaded gasolines that were "suitable for combustion in an automotive engine," like unleaded racing gasolines, were excluded solely because they were not the "traditional" or "standard" fuels widely used by the general public and thus would not be intended for use to solve the "smog problem."

In upholding a patent for compositions of matter by relying on their intended use to impose a limitation which was expressly designed to avoid prior art, the Federal Circuit's decision is flatly inconsistent with this Court's holdings in both *General Electric* and *McCarty*. Standing alone, this departure from this Court's precedents justifies grant of Refiners' petition. In the context of the Federal Circuit's refusal to invalidate a patent with the broad implications of the one here, the court of appeals' departure from those precedents presents a compelling justification for this Court's review of the Federal Circuit's decision.

### C. The Federal Circuit's Misuse of the Claim Construction Authority Granted By This Court In *Markman* Provides Further Support For Granting The Petition.

Just four years ago, this Court held that the Federal Circuit's exclusive patent jurisdiction included *de novo* construction of claims as an issue of law because of the importance of claim certainty:

> "[T]he limits of a patent must be known for the protection of the patentee, the

> encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public." Otherwise, a "zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field . . . ." "The public [would] be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights."

*Markman*, 517 U.S. at 390 (internal citations omitted).

The Federal Circuit's decision in this case creates the very uncertainty that *Markman* condemns. Under the guise of claim construction, the Federal Circuit rewrote Unocal's claims to impose an additional limitation not found in the claims as they were issued by the Patent and Trademark Office ("PTO") and thereby affirmed a district court decision which acknowledged that it added a narrowing limitation specifically to save the claims from the prior art. JA149.

In taking this action, the Federal Circuit not only overstepped its claim construction authority, but also it usurped the statutory authority given *exclusively* to the PTO to do what the courts did here – narrow patent claims to avoid invalidity. A patentee is not entitled to a patent narrowing claims to avoid prior art unless it pursues the process and satisfies the requirements for reissued patents imposed by 35 U.S.C. § 251. Moreover, by allowing Unocal to circumvent the reissue procedure, the Federal Circuit subjected Refiners and others to infringement liability without the protections provided by the intervening rights provisions of 35 U.S.C. § 252.

Given the significance of this case and the implications of the Federal Circuit's decision, this is a perfect opportunity for the Court to clarify and delineate the role of

the courts in construing claims as opposed to the statutory role of the PTO to narrow claims by reissue. By granting the petition and ultimately reversing the decision below, this Court would send a clear message that *Markman* is not a license for judicial revision of patent claims, but instead that claim construction is a process of interpreting *existing* claim limitations.

## CONCLUSION

The penultimate sentence of Justice Jackson's unanimous opinion for the Court in *Muncie Gear*, 315 U.S. at 768, provides a fitting conclusion for the petition:

> To sustain the claims in question upon the established and admitted facts would require a plain disregard of the public interest sought to be safeguarded by the patent statutes, and so frequently present but so seldom adequately represented in patent litigation.

The petition should be granted.

Respectfully submitted,

Harry C. Marcus
Bartholomew Verdirame
Morgan & Finnegan, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

Donald R. Dunner
Ford F. Farabow
Finnegan, Henderson, Farabow,
Garrett & Dunner, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. Edward Bruce
(Counsel of Record)
Christopher N. Sipes
Keith A. Noreika
Covington & Burling
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

Attorneys for Petitioners

**UNITED STATES COURT OF APPEALS,**

**FEDERAL CIRCUIT**

UNION OIL COMPANY OF CALIFORNIA,

Plaintiff-Appellee,

v.

ATLANTIC RICHFIELD COMPANY,
CHEVRON U.S.A. INC.,
EXXON CORPORATION,
MOBIL OIL CORPORATION,
SHELL OIL PRODUCTS COMPANY and
TEXAS REFINING AND MARKETING, INC.,

Defendants-Appellants

No. 99-1066

---

March 29, 2000

---

Before MAYER, [Chief] Judge, LOURIE and RADER, Circuit Judges.

Opinion for the court filed by Circuit Judge RADER. Circuit Judge LOURIE dissents in part.

RADER, Circuit Judge.

The United States District Court for the Central District of California denied the appellants' motion for Judgment as a Matter of Law (JMOL) which sought to overturn the jury verdicts of patent validity and willful infringement. *See Union Oil Co. of Cal. v. Atlantic Richfield Co.*, No. CV-95-2379-KMW, slip op. at 1 (C.D. Cal. Mar. 10, 1998) (*Unocal I*). In their JMOL motion, the Atlantic Richfield Company and other appellant refiners asserted that Union Oil Company

of California's (Unocal) United States Patent No. 5,288,393 ('393 patent) is invalid under 35 U.S.C. §§ 102 and 112 (1994). The district court also held that Unocal did not commit inequitable conduct before the U.S. Patent and Trademark Office (PTO). *See Union Oil Co. of Cal. v. Atlantic Richfield Co.*, 34 F.Supp.2d 1208, 1222 (C.D.Cal.1998) (*Unocal II*). Because the appellant refiners did not show a reversible flaw in the jury's verdict, this court affirms the district court's denial of JMOL on §§ 102 and 112 issues. Similarly, this court affirms the trial court's discretionary judgment of no inequitable conduct.[1]

I.

Unocal owns the '393 patent, which claims automotive gasoline compositions that reduce automobile tailpipe emissions. Unocal's original patent application contained 82 claims. As is often the case during the course of prosecution, the inventor added and canceled many claims. Ultimately, 155 claims issued, but Unocal later disclaimed all but the forty-one at issue in this case: claims 20, 53, 54, 56, 57, 71-75, 78, 79, 81, 112-16, 117 (multiply dependent on claims 53, 73, 78, 112, 116. and 125), claim 120 (multiply dependent on claims 55, 78, 79, and 124), claim 121 (dependent on claim 120 and therefore multiply dependent on claims 55, 78, 79 or 124), 125-27, 133-35, 137, 153, and 155. Each claim appears in dependent or multiple dependent form, and has from four to six limitations describing ranges for several of the fuel characteristics. Each claim effectively begins either with the preface "[a]n unleaded gasoline fuel suitable for combustion in an automotive engine" or "[a]n unleaded gasoline fuel suitable for combustion in a spark

---

[1] Because the appellant refiners did not question the district court's willfulness determination in their appeal, this court does not address that issue.

ignition automotive engine." As an example, Claim 117, as dependent upon claim 116, states:[2]

> 117. [An unleaded gasoline fuel suitable for combustion in an automotive engine, said fuel having a Reid Vapor pressure no greater than 7.0 psi, and a 50% D-86 distillation point no greater than 200° F., and a 90% D-86 distillation point no greater than 300° F., and a paraffin content greater than 85 volume percent, and an olefin content less than 4 volume percent] wherein the maximum 10% distillation point is 158° F (70° C.).

'393 patent, col. 24, ll. 24-27.

As illustrated above, the claims do not describe each gasoline product in terms of molecular structures or lists of ingredients. Instead, the claims specify the chemical properties of the gasolines, reflecting the way oil refiners formulate gasoline. When oil refiners formulate new gasoline products, they do so by mixing petroleum stocks. Different stocks have different properties that are known to oil refiners. The record shows that oil refiners of ordinary skill in the art change the chemical properties of gasoline by varying the proportions of different petroleum stocks. Thus the claims which define the invention in terms of various characteristics also inform those of skill in the art of the composition of the claimed gasoline fuels.

Unocal researched extensively the production of automotive gasoline with reduced combustion emissions. Unocal's scientists, Drs. Jessup and Croudace, ultimately

---

[2] Because the claims are written in multiple dependent form, the claim elements that are incorporated from other claims have been paraphrased in brackets.

filed a patent application based on their findings. Their research taught ways to produce cleaner gasoline by varying the following chemical properties in automotive gasolines: Reid Vapor Pressure (RVP), T10, T50, T90, Olefins, Paraffins, Aromatics,[3] and Octane.

RVP measures the partial pressure of a gasoline sample when heated to 100° F in a sealed container. *See id.* at col. 18, ll. 43-47. T10, T50 and T90 are abbreviations for percentage distillation points, as measured according to an industry standard procedure called "D-86." Each corresponds to the temperatures at which a given percentage of the gasoline sample enters a gaseous phase under specific experimental conditions. Thus, T10 is the 10% D-86 distillation point; T50 the 50% D-86 distillation point; and T90 the 90% D-86 distillation point. The olefins value describes the percentage of the gasoline comprised of olefins measured by volume. Olefins, otherwise known as alkenes, are open-chain hydrocarbons that contain at least one double bond. The paraffins value describes the percentage of the gasoline comprised of paraffins measured by volume. Paraffins, otherwise known as alkanes, are open-chain hydrocarbons that contain only single bonds. The aromatics value describes the percentage of the gasoline comprised of aromatics measured by volume. Aromatics, are compounds whose properties resemble those of 6-carbon ring molecules that have an average of three intra-ring carbon-carbon double bonds (i.e., benzene). Octane, as used in the '393 patent, describes the knocking or detonation characteristics of a gasoline sample as compared with a reference fuel. The octane value is derived by testing gasoline in a special engine

---

[3] Although the '393 patent teaches increasing the aromatic content of automotive gasoline to reduce tailpipe emissions, the claims do not mention aromatic content.

under specified experimental conditions, and comparing those results to identically tested reference blends of Isooctane and n-heptane.

Drs. Jessup and Croudace sought to reduce the levels of carbon monoxide (CO), nitrous oxide ($NO_x$), and hydrocarbons (HC) emitted from automobile tailpipes. After considerable experimentation, Drs. Jessup and Croudace discovered relationships between the various petroleum characteristics described above and tailpipe emissions. Drs. Jessup and Croudace then patented their innovative fuel compositions, describing the new compositions by their characteristics.

The specification of the '393 patent describes relationships among automotive gasoline characteristics and fuel emissions, including the following:

1. Decreasing RVP is of primary importance, and decreasing T10 and olefin content are of secondary importance for reducing $NO_x$ emissions. *See* '393 patent, col. 2, ll. 21-29.

2. Decreasing T50 is of primary importance for reducing CO and HC emissions. *See id.* at ll. 7-11.

3. Increasing paraffin content and decreasing T50 are most effective for reducing CO emissions. *See id.* at col. 6, ll. 12-28.

4. Decreasing both olefin content and RVP are most effective for reducing $NO_x$ emissions. *See id.* at ll. 28-31.

5. HC emissions are most practically reduced by decreasing olefins and/or T50. *See id.* at ll. 46-50.

6. Any combination of the eight characteristics can be increased or decreased as described, and that the greater any individual characteristic is changed in the directions indicated, the better the result. *See id.* at col. 15, ll. 20-28.

The specification also provides specific numerical ranges for each characteristic. For example, the specification teaches:

1. CO and HC emissions can be minimized by reducing T50 below 215° F, preferably below 195° F. *See id.* at col. 2, ll. 7-20.

2. $NO_x$ emissions can be minimized by (a) decreasing RVP to 8.0 psi or less (preferably below 7.0 psi); (b) decreasing olefins below 15% (preferably to essentially zero); or (c) decreasing T10 below 140° F. *See id.* at ll. 21-34.

3. The best $NO_x$ reductions are obtained when the olefins are below 15%, RVP is 7.5 psi or less, and T10 is below 140° F. *See id.* at ll. 44-50.

4. All three pollutants are reduced when T50 is 215° F or less and RVP is 8.0 psi or less, with greater reductions when olefins are below 10% or T10 is below 140° F, and still greater reductions when both olefins and T10 are reduced. *See id.* at ll. 54-64.

5. Further pollution reductions are possible when T50 is below 195° F, olefins are below 5% (preferably at essentially zero), T10 is below 120° F, and/or when RVP is below 7.0 psi. *See id.* at l. 64--col. 3, l. 3.

Elsewhere the specification describes the optimal ranges for five of the eight fuel characteristics in similar terms.

The specification also states that the gasolines are preferably unleaded, have an octane rating of at least 90, and fall most preferably within one or more of five volatility classes in American Society for Testing and Materials (ASTM) publication D4814-89 (included in Table 1 of the patent). *See id.* at col. 4, l. 66--col. 5., l. 13. Beyond the optimal ranges for individual characteristics, the '393 patent also discloses preferred fuel mixtures. In sum, the '393 disclosure describes with detail the benefits and methods of varying gasoline characteristics. The specification describes 1) the relationships among the eight individual fuel characteristics and CO, $NO_x$, and HC emissions, 2) characteristics most important for emissions, and 3) specific desirable ranges for RVP, T10, T50, olefins, paraffins, and aromatics.

The appellant refiners originally sued Unocal in district court, seeking a declaratory judgment to invalidate the '393 patent. Unocal counterclaimed, alleging willful infringement of the '393 patent. The district court then construed the claims of the '393 patent, effectively converting the refiners' declaratory judgment action into an infringement defense. Then the district court tried those invalidity issues to a jury. During forty-nine days of trial, the jury heard the testimony of numerous witnesses and considered hundreds of exhibits and demonstrations. *See Unocal I*, slip op. at 6. At the close of all evidence, the district court properly instructed the jury on the law, and presented the jury with a special verdict form. The verdict form required the jury to decide validity under § 102 and § 112 separately for each of the forty-one asserted claims. With respect to the § 112 questions, the trial court asked the jury to consider the '393 patent's specification, including the original claims of the application, as filed. *See Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 938, 15 USPQ2d 1321, 1326 (Fed.Cir.1990) ("The

original claims as filed are part of the patent specification."). In total, the trial court's special verdict form asked the jury 223 individual questions. After thirteen days of deliberation, the jury returned and answered affirmatively that sufficient written description supported each of the forty-one asserted claims, and that none was anticipated under § 102.

The appellant refiners then moved the district court to overturn the jury's verdict with a motion for JMOL based on anticipation, obviousness, and lack of written description. After reviewing arguments of both parties and the record, the district court found that "substantial evidence exists in the record regarding the written description to support the verdict that Drs. Jessup and Croudace had possession of the claimed subject matter." *Unocal I*, slip op. at 6. The district court similarly considered and rejected appellant refiners' arguments on anticipation and obviousness. *See id.* at 3-5.

The appellant refiners also argued that the '393 patent was unenforceable for inequitable conduct. The district court tried that issue itself and held that the refiners did not meet their burden of showing inequitable conduct by clear and convincing evidence. *See Unocal II*, 34 F.Supp.2d at 1222. The district court found the case exceptional, and therefore also awarded attorney fees to Unocal under 35 U.S.C. § 285 (1994).

The appellant refiners now appeal the district court's denial of JMOL on anticipation and written description. They also appeal the district court's inequitable conduct decision.

II.

This court reviews the district court's JMOL ruling after a jury verdict by reapplying the district court's own standard. *See Applied Med. Resources Corp. v. United States Surgical Corp.*, 147 F.3d 1374, 1376, 47 USPQ2d 1289, 1290 (Fed.Cir.1998). Thus, to prevail on appeal, the appellant

refiners must show that substantial evidence does not support the jury's factual findings or that the district court erred in applying the law. *See id.*

A district court may overturn a jury's verdict on a motion for JMOL only if, upon the record before the jury, reasonable persons could not reach the verdict returned by that jury. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed.Cir.1984). This court must consider the evidence of record in the light most favorable to Unocal, drawing all reasonable inferences in its favor, without disturbing the jury's credibility determinations or substituting this court's resolutions of conflicting evidence for those of the jury. *See Applied Med.*, 147 F.3d at 1376-77.

A.

This court requires that a party seeking to invalidate a patent under § 102 show that the allegedly invalidating prior art contains "each and every element of [the] claimed invention." *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 USPQ2d 1766, 1767 (Fed.Cir.1987). To prevail on anticipation at trial, the refiners had to prove their case by clear and convincing evidence. *See Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1052-53 (Fed.Cir.1987). The law imposes this high burden because Unocal's patent, like any issued patent, enjoys a presumption of validity. *See id.*

This court reviews a finding of anticipation as a question of fact. *See In re Graves*, 69 F.3d 1147, 1151, 36 USPQ2d 1697, 1700 (Fed.Cir.1995). Therefore, on appeal, this court must affirm the district court's denial of JMOL on anticipation if substantial evidence supports the jury's verdict that the cited prior art did not anticipate the claims.

"The first step in any invalidity .. analysis is claim construction." *See Rockwell Int'l Corp. v. United States*, 147 F.3d 1358, 1362, 47 USPQ2d 1027, 1029 (Fed.Cir.1998).

Claim construction is a question of law, which this court reviews without deference. *See Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1330, 52 USPQ2d 1590, 1597 (Fed.Cir.1999). "In claim construction the words of the claims are construed independent of the accused product, in light of the specification, the prosecution history, and the prior art . . . . [T]he construction of claims is simply a way of elaborating the normally terse claim language[ ] in order to understand and explain, but not to change, the scope of the claims." *Scripps Clinic v. Genentech, Inc.*, 927 F.2d 1565, 1580, 18 USPQ2d 1001, 1013 (Fed.Cir.1991) (internal quotation marks omitted).

The claims of the '393 patent recite either "[a]n unleaded gasoline suitable for combustion in an automotive engine" or "[a]n unleaded gasoline fuel suitable for combustion in a spark ignition automotive engine." Thus, the '393 patent claims compositions of matter. The scope of these composition claims cannot, as the appellant refiners argue, embrace only certain uses of that composition. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed.Cir.1990). Otherwise these composition claims would mutate into method claims. The district court correctly applied this principle, refusing to narrow the scope of the claimed compositions to specific uses.

The district court read each claim in light of the specification, and concluded that the claims cover "fuels that will *regularly* be used in autos, not that conceivably could be." *Union Oil Co. of Cal. v. Atlantic Richfield Co.*, No. CV-95-2379-KMW, slip op. at 7 (C.D. Cal. May 19, 1997) (*Unocal III*). The district court thus construed the claims to cover only a narrow class of fuel compositions, namely only standard automotive gasoline. The district court correctly excluded from claim scope a broader class of petroleum formulations such as aviation fuels or racing fuels. The claim language confirms the district court's reading of the claims to cover mass market automotive gasoline. The claim

language specifies fuels for an "automotive engine," not an aviation engine. *See, e.g.*, '393 patent, col. 18, l. 65. Moreover the explicit reference to "unleaded gasoline" again invokes standard automotive fuels, rather than specialized fuels. *See, e.g., id.* at col. 18, l. 64.

The district court's interpretation also finds extensive support in the specification. The patentees described the problem that their invention addressed:

> One of the major environmental problems confronting the United States and other countries is atmospheric pollution (i.e., "smog") caused by the emission of gaseous pollutants in the exhaust gases from automobiles. This problem is especially acute in major metropolitan areas, such as Los Angeles, Calif., where the atmospheric conditions and the great number of automobiles account for aggravated air pollution.

*Id.* at col. 1, ll. 9-16. Similarly, the patentees describe their testing procedures and results in the specification. Specifically, the patentees used ordinary passenger automobiles in their tests. The '393 patent records the results of testing certain fuels in a 1989 Oldsmobile Calais, a 1988 Oldsmobile 98, a 1985 Ford Tempo, a 1990 Lincoln, a 1984 Chevrolet Caprice, a 1988 Honda Accord, a 1989 Ford Taurus, a 1990 Plymouth Shadow, a 1985 Chevrolet Suburban, and a 1990 Toyota Camry. *See id.* at fig. 9. None of these are aviation or racing vehicles.

Similarly, another passage provides context for the trial court's claim construction. The patentees describe their choice of test vehicles as follows:

> A total of 22 different unleaded gasoline fuels was tested in a 1988 Oldsmobile Regency 98

> automobile equipped with a 3800 cc V-6 engine. This automobile was selected because it represented a high sales volume product with close to the current state-of-the-art emission technology.

*Id.* at col. 7, ll. 61-6. The patentees tailored their research and their patent to ordinary fuels for use in standard passenger cars. Thus, the claim language, further informed by the specification, shows that the district court correctly read the claims to cover ordinary automotive fuel.

Because the '393 patent covers only standard automotive fuel, the district court correctly determined that specialty fuels within other limitations of the claims do not anticipate under 35 U.S.C. § 102. In other words, the aviation and racing fuels that allegedly invalidate the '393 claims do not anticipate because they do not contain each and every limitation of the claims. *See Verdegaal*, 814 F.2d at 631. Specifically, this alleged prior art does not include the limitation of being a standard automotive fuel composition.

Moreover, the record does not show that the aviation and racing fuels otherwise have the claimed characteristics of the particular standard automotive fuels recited in the '393 patent. While the record shows that some properties of the aviation and racing fuels coincide with the properties of the '393 patent's claims, the record does not show the presence of each and every limitation. An expert for the refiner appellants stated that the allegedly anticipatory Phillips B-35 racing fuel "is very different from typical [automotive fuel]." Tr. at 4782. When asked, "Is Unocal unleaded racing gasoline very different from typical motor gasoline?", the expert again answered "Yes." *Id.* at 5047. This expert similarly answered "yes" when questioned about whether the asserted aviation fuels were "very different" from typical motor gasoline. *See id.* at 5060.

The district court did not err in construing the claims of the '393 patent. Furthermore the record does not show each and every element of the asserted claims of the '393 patent present in any single prior art reference. Therefore, this court affirms the district court's denial of JMOL on anticipation.

B.

The first paragraph of § 112 states that: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." 35 U.S.C. § 112. In written description cases, "[t]he primary consideration is *factual* and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure." *In re Wertheim*, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976) (emphasis added). This court reviews a jury's factual findings for substantial evidence. *See B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1423, 43 USPQ2d 1896, 1899 (Fed.Cir.1997).

The written description requirement does not require the applicant "to describe exactly the subject matter claimed, [instead] the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed.Cir.1989) (citations omitted). Thus, § 112, ¶1 ensures that, as of the filing date, the inventor conveyed with reasonable clarity to those of skill in the art that he was in possession of the subject matter of the claims. *See Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed.Cir.1991).

In the course of the lengthy jury trial, the district court heeded this court's counsel to use special verdicts in complex cases. *See Comark Communications, Inc. v. Harris Corp.*,

156 F.3d 1182, 1189 n.1, 48 USPQ2d 1001, 1006 n.1 (Fed.Cir.1998). The district court presented the jury with a verdict form asking it to decide separately whether each of the claims met the written description requirement. Following these instructions, the jury returned its verdict answering affirmatively forty-one separate times that sufficient written description supported each of the asserted claims.

After the jury's verdict, the appellant refiners renewed their motion for JMOL to overturn the jury's verdict. *See* Fed.R.Civ.P. 50(b). The district judge then reconsidered the patent documents independently in light of all the evidence and denied the JMOL motion, thus upholding the jury's verdicts. Like the district court, this court must accord deference to the jury findings on written description. This court will not substitute its judgment for that of the fact finder. *See General Electro Music Corp. v. Samick Music Corp.*, 19 F.3d 1405, 1412, 30 USPQ2d 1149, 1155 (Fed.Cir.1994).

On the record in this appeal, substantial evidence amply supports the jury's findings and the trial judge's JMOL ruling. The '393 patent teaches the effects of varying the properties of automotive gasolines to reduce harmful tailpipe emissions. In the art of gasoline production, skilled refiners obtain raw petroleum products and mix them together to achieve a desired product. Each product is the mixture of many chemicals in varying proportions. The '393 patent teaches that changes in the proportions of different hydrocarbon-containing streams mixed to produce gasoline with specific properties reduces the amount of $NO_x$, CO, and hydrocarbons emitted from an automobile engine. Varying one or more properties in turn affects other properties of a gasoline product. Therefore, the patent claims its inventive products in terms of ranges of chemical properties, which work in combination with ranges of other chemical properties to produce a gasoline that reduces emissions.

Appellant refiners assert that the specification does not describe the exact chemical component of each combination that falls within the range claims of the '393 patent. However, neither the Patent Act nor the case law of this court requires such detailed disclosure. *See In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 1533, 25 USPQ2d 1241, 1245 ("[The applicant] does not have to describe exactly the subject matter claimed."); *Vas-Cath*, 935 F.2d at 1566 ("ranges found in applicant's claims need not correspond exactly to those disclosed in [the specification]; issue is whether one skilled in the art could derive the claimed ranges from the [ ] disclosure."). Rather, the Patent Act and this court's case law require only sufficient description to show one of skill in the refining art that the inventor possessed the claimed invention at the time of filing.

Drs. Jessup and Croudace described their invention in terms of ranges. That form of description does not offend § 112, ¶ 1. In fact, this invention lends itself to description in terms of ranges and variance of those ranges to achieve particular properties of the gasoline products. The inquiry for adequate written description simply does not depend on a particular claim format, but rather on whether the patent's description would show those of ordinary skill in the petroleum refining art that the inventors possessed the claimed invention at the time of filing.

In this case, the patent teaches one of ordinary skill that reducing T50 progressively reduces CO and hydrocarbons; reducing olefins progressively reduces $NO_x$ and hydrocarbons; increasing paraffins progressively reduces CO and $NO_x$; and so forth with several other relationships. Then the patent claims ranges for these properties that provide cleaner gasoline emissions. The Background and Abstract portions of the specification discuss thoroughly the claimed ranges and the combinations of multiple properties.

For example, the written description supporting a single claim – claim 117 – follows:

| Claim Limitation | Support in '393 Patent |
|---|---|
| T50 at ≤ 200° | Col. 14, ll. 9-15: "no greater than 210° F. . . . but **preferably . . . less than 200° F. . . .**" |
| RVP at ≤ 7.0 psi | Col. 14, ll. 36-40: "Reid Vapor Pressure specification of 8.0 psi . . . **even more preferably no greater than 7.0 psi . . .**" |
| Olefin at ≤ 4.0 volume percent | Col. 14, ll. 23-30: "varying the olefin content, this value is generally maintained less than 15 volume percent, with decreasing values providing progressively improved results. Thus, it is contemplated that each unit reduction, e.g., to values **below . . . 4 . . . providing progressively better results . . .**" |
| Paraffin at > 85 volume percent | Col. 14, ll. 49-64: "progressively increasing the paraffin content progressively decreases the CO emitted. Accordingly . . . the paraffin content would be increased to . . . and **most preferably of all above 85 volume percent . . .**" |
| T90 at ≤ 300° | claimed exactly in original claim 29[4] |
| T10 at ≤ 158° | Col. 5, lls. 6-30: Table 1 shows maximum T10 distillation temperatures for all five volatility classes at **158 or below**. |

---

[4] One of this court's predecessor courts clarified that disclosure in an originally filed claim satisfies the written description requirement. *See In re Gardner*, 480 F.2d 879, 880, 178 USPQ 149 (CCPA 1973) ("Under these circumstances, we consider the original claim in itself adequate 'written description' of the claimed invention. It was equally a 'written description' . . . whether located among the original claims or in the descriptive part of the specification.").

(Emphasis added.)

The specification further guides the skilled artisan in combining the above properties: "It will also follow that one can increase or decrease any combination of the eight properties listed above, i.e., at least two, at least three, at least four, etc., of the properties can be increased or decreased in the direction indicated above, as well as all eight." '393 patent, col. 15, ll. 20-25. The record of the trial contains testimony and exhibits showing in similar terms the written description and support for each of the forty-one claims.

To reiterate, this court supplies the written description supporting another claim, claim 125, as follows:

| Claim Limitation | Support in '393 Patent |
|---|---|
| T50 at ≤ 205° | Col. 2, ll. 17-18: "Preferred fuels have a 50% D-86 Distillation Point **of 205° F. (96.1° C) or less.**" |
| RVP at ≤ 7.0 psi | Col. 14, ll. 36-40: "Reid Vapor Pressure specification of 8.0 psi . . . **even more preferably no greater than 7.0 psi** . . ." |
| Olefin at < 6.0 volume percent | Col. 14, ll. 23-30: "varying the olefin content, this value is generally maintained less than 15 volume percent, with decreasing values providing progressively improved results. Thus, it is contemplated that each unit reduction, e.g., to values **below** . . . **6** . . . **providing progressively better results** . . ." |
| Paraffin at > 75 volume percent | Col. 14, ll. 49-59: "progressively increasing the paraffin content progressively decreases the CO emitted. Accordingly . . . the paraffin content would be increased to . . . [and] **even more preferably above 75 volume percent** . . ." |

(Emphasis added.)

Beyond this evidence from the patent itself, skilled refiners testified that the specification taught them that the

inventor possessed the emission-reducing gasolines at the time of filing. For example, when questioned, Richard Stellman, an expert in the field, stated:

> Q. Does the patent teach one of ordinary skill in the art such as yourself to alter two or more of the properties in a particular - in the prescribed fashion in order to affect all three of the criteria pollutants?
>
> A. Yes, it does.
>
> Q. And does the patent set forth values from which one of ordinary skill in the art can practice the invention?
>
> A. Yes, it does.

Tr. at 2515.

The patent unmistakably informs skilled refiners to increase or decrease the various components to arrive at preferred combinations. In fact, the written description usually labels both preferred and most preferred levels within each range. Skilled refiners testified that they knew the composition of the claimed combinations based on this written description. Contrary to appellant refiners' arguments to this court, the record shows that refiners of ordinary skill understood and applied the '393 patent's teachings. In sum, the record shows that the inventors possessed the claimed invention at the time of filing in the assessment of those of ordinary skill in the petroleum refining art.[5] Moreover, the

---

[5] The dissent contends that the specification does not show that the inventors possessed the amended claims at the time of filing. In its arguments, the dissent discounts the skill in this art, which, the jury found, knows the composition of gasolines from the specification's description of

(continued...)

jury in this case reached the same conclusion as a matter of fact–a proposition that this court cannot disturb on this record which supplies substantial evidence to support that finding.

The appellant refiners attempt to rescue their written description argument by focusing on the T90 levels cited in claims 74, 81, 116, 117, and 127. Appellant refiners allege that the "specification provides no specific T90 values . . . [and that a]lthough five of the original application claims recited combinations including a T90 limitation, they bear no resemblance to the remaining claims with T90 limitations." Appellants' Br. at 46. Appellant refiners misapprehend the teachings of T90 levels. The '393 patent teaches that lowering the T90 distillation point below prior art standards for automotive gasolines creates the desired effect. *See* '393 patent, col. 2, l. 1. The standards set forth in Table 1 of the '393 patent describe the ASTM standards for gasolines that have T90 distillation points between 365 and 374° F. The T90 distillation points in the originally filed claims were less than or equal to either 315 or 300° F, thus substantially lower than in the prior art gasolines. The claimed ranges of the originally filed claims are the same as those set forth in the six claims of the issued '393 patent that contain T90 limitations. In other words, the disclosure at the time of filing taught one of skill in the art that the inventors possessed the subject matter of the later claims. Even if appellant refiners' argument were correct, that analysis only

---

(footnote continued)

characteristics. Further, the dissent discounts the jury's role in finding, as a matter of fact, that the inventor satisfied the written description requirement, preferring instead its own "findings" about the knowledge of skilled artisans and about the sufficiency of the disclosures.

addresses the validity of five claims, leaving the remaining thirty-six claims.

Appellant refiners argue that *In re Ruschig*, 54 C.C.P.A. 1551, 379 F.2d 990, 154 USPQ 118 (CCPA 1967), supports their argument. This court's predecessor discussed in *Ruschig* whether a claim for a particular pharmaceutical compound copied into a patent application for the purposes of provoking an interference was adequately supported by the written description of a class of compounds. *Ruschig* is different than this case for several reasons. First, the *Ruschig* case involved a copied claim (another inventor's claim copied into Ruschig's application), which did not find support in Ruschig's application because Ruschig had invented and disclosed a broad set of the compounds that was similar, but not entirely within the scope of the claim. Because another inventor, not Ruschig, drafted the claim at issue to fit another specification, it is not surprising that the disputed claim did not find support in Ruschig's specification, even though the inventions were similar. In this case however, the claims, although amended in the course of prosecution, were drawn to the inventions of Jessup and Croudace, who drafted the claims with support from their own specification.

Second, as this court's predecessor explained in distinguishing *Ruschig* in another case involving ranges:

> If lack of literal support alone were enough to support a rejection under § 112, then the statement of *In re Lukach* ... that "the invention claimed does not have to be described in ipsis verbis in order to satisfy the description requirement of § 112," is empty verbiage.

*Wertheim*, 541 F.2d at 265. As in this case, in *Wertheim* the asserted claims covered a range ("solids level of at least 35%"), *id.* at 258, whereas the specification disclosed a broader range ("concentrated ... until a concentration of 25

to 60% solid matter is reached"), *id.* at 262 (internal quotation marks omitted). In *Wertheim* the CCPA held that the specification supported the claimed range, even though the precise range of the claim was not repeated verbatim in the specification, as the dissent in this case would appear to require. In so holding, the court cautioned that it would "let form triumph over substance" if it allowed the written description requirement to eviscerate claims that are narrowed during prosecution, simply because the patent applicant broadly disclosed in the original patent application but then narrowed his claims during prosecution. *See id.* at 263. Additionally, *Wertheim* reiterates the often cited rule that written description questions are intensely factual, and should be dealt with on a case-by-case basis, without the application of wooden rules. *See id.* at 262. Thus, *Wertheim* fully supports the result in this case and limits the applicability of *Ruschig*.

Our predecessor court in *Ruschig* expressed concern over the extent to which the patentee relied on variables in describing structures, leading that court to explain that rather than blaze marks on trees, the patentee had simply provided the public with a forest of trees. Artisans skilled in petroleum refining, in contrast, are aware of the properties of raw petroleum sources and know how to mix streams of such sources to achieve a final product with desired characteristics. Thus the patentee in this case taught the desired characteristics of the final automotive fuels, realizing that those of skill in this art know that those characteristics define the claimed products.

A closer case for assessing the facts of written description in these forty-one verdicts–one which dealt with ranges and combinations – is *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed.Cir.1985). In *Ralston*, a case in which this court applied the less deferential clear error standard appropriate for this court's review of

bench verdicts, this court noted that the ranges in applicant's claims need not correspond exactly to those disclosed in the parent application. *See id.* at 1575. Rather, this court clarified that the issue is whether one of skill in the art could derive the claimed ranges from the parent's disclosure. *See id.*; *see also Vas-Cath*, 935 F.2d at 1566 (holding that the district court erred in "applying a legal standard that essentially required the drawings of the '081 design application to necessarily exclude all diameters other than those within the claimed range."). Because of the fact-sensitive nature of the written description inquiry, this court has often warned against misapplication of precedents in this area. *See Vas-Cath*, 935 F.2d at 1562 (citing *In re Driscoll*, 562 F.2d 1245, 1250, 195 USPQ 434, 438 (CCPA 1977)). This case illustrates the reason for that warning. *Ralston* governs this case.

The written description requirement does not require identical descriptions of claimed compounds, but it requires enough disclosure in the patent to show one of skill in this art that the inventor "invented what is claimed." *Vas-Cath*, 935 F.2d at 1563. On this precise question the jury received many days of testimony, heard from skilled refiners, reviewed graphs and claim charts, and examined the patent documents as guided by those skilled in the art. Indeed the district court, which also heard all the evidence from those of skill in the art, stated: "[T]he Court finds that substantial evidence exists in the record regarding written description to support the verdict that Drs. Jessup and Croudace had possession of the claimed subject matter." *Unocal I*, slip op. at 6. This court agrees. Because the record shows substantial evidence of adequate written description for each claim as the jury found, this court affirms.

III.

Applicants for U.S. patents and their representatives before the PTO are subject to a duty of candor, good faith

and honesty in their prosecution of patent applications. *See* 37 C.F.R. § 1.56 (1999). "A breach of this duty constitutes inequitable conduct." *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178, 33 USPQ2d 1823, 1826 (Fed.Cir.1995). If a court determines that a patentee has engaged in inequitable conduct, the court must consider whether, as a matter of equity, the patent should be deemed unenforceable. *See LaBounty Mfg., Inc. v. ITC*, 958 F.2d 1066, 1070, 22 USPQ2d 1025, 1028 (Fed.Cir.1992). Because as the name suggests, inequitable conduct is an equitable issue, this court reviews such determinations for an abuse of discretion. *See Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876, 9 USPQ2d 1384, 1392 (Fed.Cir.1988) (*en banc* in relevant part). Moreover this court will not disturb the district court's factual determinations of materiality and intent without a "definite and firm conviction that a mistake has been committed." *Id.*

In this case, the district court issued a thorough and well reasoned opinion that shows consideration of the fundamental issues of inequitable conduct. Specifically, the district court noted that the allegedly withheld test data would not have been material to the patentability of the claims. *See Molins*, 48 F.3d at 1179. The district court also found no intent to deceive by withholding the disputed test records, but instead determined that Unocal acted in good faith during the prosecution. This court detects no clear error in these findings and no abuse of discretion in the district court's determination of no inequitable conduct.

IV.

Because the record contains substantial evidence to support the jury's verdicts of no anticipation and sufficient written description, this court affirms the district court's denial of JMOL. Similarly, this court affirms the district court's inequitable conduct determination.

## COSTS

Each party shall bear its own costs.

*AFFIRMED.*

## DISSENTING OPINION

LOURIE, Circuit Judge, dissenting in part.

Because the jury's verdict that the claims are not invalid for lack of written description is not supported by substantial evidence, I would reverse the district court's denial of the motion for JMOL, hold the relevant claims to be invalid, and vacate the damages and attorney fees awarded to Unocal. Because the district court did not abuse its discretion in concluding that Unocal did not engage in inequitable conduct, I would affirm that decision. I would not reach the anticipation issue.

Unocal's '393 patent is directed to specific gasoline compositions, albeit compositions defined by ranges of properties. No matter how an invention is claimed, it must be described in the specification. The claimed compositions were not so described. The majority supports its affirmance of the denial of the JMOL using enablement reasoning. It points to the numerous references in the specification to teachings of the various ways one may obtain particular combinations of properties for the fuels. These are *general* descriptions of how to make fuel compositions, not descriptions of the *claimed* compositions. They may also constitute descriptions of *processes* for obtaining various *characteristics* of fuel compositions, but it is specific *compositions* that are claimed here, not processes. There are written descriptions of other particular compositions in the specification, but they are not written descriptions of the inventions claimed here. It is in fact undisputed that the specification discloses no distinct embodiments corresponding to any claim at issue.

The majority supports its decision in part with two charts purporting to show detailed support in the specification for claims 117 and 125. However, the description that the majority provides, with commendable thoroughness, shows the weakness of its conclusion. The claimed compositions do not appear in the specification as such. The charts were synthesized by pulling together various directions in the specification in order to constitute the claimed compositions. Note the references to different parts of the specification for the various components. The patent does not contain such complete descriptions of those compositions; they were presumably prepared after the grant of the patent for purposes of litigation by Unocal. Erroneously, they were accepted by the jury, the trial judge, and the appellate majority.

Unocal's original application contained 82 claims. During the course of prosecution, 161 claims were added and 47 canceled. Ultimately, 196 claims issued, but Unocal later disclaimed all but the 41 at issue in this case. None of these claims were in the original application; all were added by amendment.

The written description requirement ensures that, at the time a patent application is filed, the inventor has possession of the invention claimed. *See Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed.Cir.1991). It also serves the obvious purpose of telling the public what it is that has been invented. Possession of the invention at the time of filing is best shown by a precise description in the text of the patent specification of all of the aspects of the claimed invention. It is well-established that each claim in a patent constitutes a separate invention, *see, e.g., Jones v. Hardy*, 727 F.2d 1524, 1528, 220 USPQ 1021, 1024 (Fed.Cir.1984); thus, a written description of the invention of each claim as such must be provided if the statutory requirement is to be met as to that claim.

It is true that a patent need not describe the claimed subject matter in precisely the same terms as used in the claims, *see Vas-Cath*, 935 F.2d at 1563-64, 19 USPQ2d at 1116; however, it must still describe the invention with all its claimed limitations in some manner, *see Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed.Cir.1997); *In re Wertheim*, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1979). "Precisely how close the original description must come to comply with § 112 must be left to case-by-case development." *Vas-Cath*, 935 F.2d at 1561, 19 USPQ2d at 1116 (citing *In re Smith*, 59 C.C.P.A. 1025, 458 F.2d 1389, 1395, 173 USPQ 679, 683 (CCPA 1972)).

It is clear beyond peradventure that there is no written description of any of the claimed compositions as such. There surely is a description of most of the particular *claim limitations* of the various claims, but that is not the same as a description of a *specific composition* described by a particular selection of those characteristics. If the written description does not use precisely the same terms used in a claim, the question then is whether the specification directs or guides one skilled in the art to the subject matter claimed. *See, e.g., Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570, 39 USPQ2d 1895, 1904 (Fed.Cir.1996). One of our predecessor courts analogized the requirement that the written description direct one to the claimed subject matter to "blaze marks" on specific trees that mark a trail through a forest. *See In re Ruschig*, 54 C.C.P.A. 1551, 379 F.2d 990, 994-95, 154 USPQ 118, 122 (CCPA 1967). It found that a broad generic disclosure failed to constitute a description of a specific claimed compound. We have subsequently stated that without such specific direction, a general disclosure will not be sufficient to support narrowly claimed subject matter. *See Fujikawa*, 93 F.3d at 1571, 39 USPQ2d at 1905 ("In the absence of [ ] blazemarks [that the claimed compounds were of special interest], simply describing a large genus of

compounds is not sufficient to satisfy the written description requirement as to particular species or subgenuses."). That direction must be expressed in "full, clear, concise, and exact" language. *See Fields v. Conover*, 58 C.C.P.A. 1366, 443 F.2d 1386, 1391, 170 USPQ 276, 280 (CCPA 1971); *In re Ahlbrecht*, 58 C.C.P.A. 848, 435 F.2d 908, 911, 168 USPQ 293, 296 (CCPA 1971); *Ruschig*, 379 F.2d at 996, 154 USPQ at 123.

Each of the claims at issue here recites a fuel having a specific combination of different fuel characteristics. Although the specification separately describes most of the individual characteristics of the combinations, it is undisputed that none of the claims at issue is matched in the specification by the combination of characteristics required by that claim. A reasonable juror could not find that the application shows possession of those combinations of characteristics by blazing a clear trail to them.

Unocal points to descriptions of individual fuel characteristics at column 14 of the specification, as well as to the prosecution history. However, column 14 simply outlines the range of variation of T10 and T50, olefin content, and RVP in order to obtain emission reductions. This is an enablement disclosure, not a description of particularly claimed compositions. Describing these individual fuel characteristics in broad terms is not the same as describing an invention reciting specific combinations of fuel characteristics. The question is not whether each of the claim limitations finds support in the specification but whether the inventions claimed, fuels having *specific combinations of characteristics*, finds such support. The simple direction to adjust more than one fuel characteristic at a time does not direct one to, and thus does not show possession of, any of the claimed combinations of fuel characteristics. One must pick and choose among eight different types of fuel characteristics, broadly described, in order to arrive at any of the claimed combinations.

For example, as indicated earlier, to arrive at one of the combinations described in claim 117, Unocal had to pick through the specification to find the claimed limitations. Four of the limitations – the T50, RVP, olefin, and paraffin limitations – fell within ranges *broadly described*, but there is no direction to a composition having all of these limitations in the *particular ranges claimed*. Furthermore, no specific T90 ranges are described anywhere in the specification except in Table 1, which recites only certain general ASTM standards. Unocal had to point to an original, canceled claim to support the T90 value chosen, but that characteristic was part of a composition no longer claimed and no longer part of the specification. Lastly, the specification repeatedly describes fuels with a T10 less than 140° F, but the claim recites a fuel with a maximum T10 of 158° F. The specification's only recitation of a fuel with a T10 of 158° F is one of the ASTM standards in Table 1, not a part of a described embodiment of the invention. By picking and choosing, one can thus find all of the limitations, but the specification gives no direction, let alone the "full, clear, concise, and exact" direction required, to the claimed combination. The same picking and choosing is required to arrive at all of the claims asserted. When one has to pick and choose among a wide range of variables to construct a claim, the subject matter of that claim has not been described as required by the statute; possession has not been demonstrated.

Unocal makes numerous references to what the specification teaches. It does so by referring to general descriptions of the possible variables. The specification does in fact contain a written description of methods for lowering auto emissions. It also teaches how to make various *types* of compositions and methods, but does not contain a written description of the *specifically claimed* compositions. It is well settled that the enablement requirement is separate and distinct from the written description requirement of § 112,

¶ 1, *see Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1117, and that a specification may enable one skilled in the art to make and use an invention and yet still not describe it, *see id.* at 1562, 935 F.2d 1555, 19 USPQ2d at 1115. Whether the specification fulfills the enablement requirement by teaching how to make the claimed combinations is not before us; the fact remains that it does not describe any one of the claimed compositions. In fact, the extensive recitation of differing ranges and preferences for particular characteristics is in stark contrast to the lack of any specific description of a composition, particularly a composition set forth in the current claims.

Unocal's reference to the broad ranges of the characteristics of the various gasolines also may be an adequate written description of a generic group of gasolines defined broadly by those characteristics. However, such a generic claim is not before us. We only have claims defining compositions by a specific set of claim limitations, none of which compositions finds a specific description in the patent specification. In *Ruschig*, the Court of Customs and Patent Appeals held that a general formula containing variables that each include a number of possible groups does not describe each composition within its scope. The court stated that "[s]pecific claims to single compounds require reasonably specific supporting disclosure...." *Ruschig*, 379 F.2d at 994, 154 USPQ at 122. The same applies to the specific compositions here. The court in *Ruschig* found certain alleged "guides" in the specification inadequate, stating that "we are looking for blaze marks which single out particular trees. We see none." *Id.* at 995, 54 C.C.P.A. 1551, 379 F.2d 990, 154 USPQ at 122. The court distinguished the written description requirement from enablement, which it considered might have been satisfied by the specification. *See id. Ruschig* is directly pertinent to the present case, and the fact that Unocal's patent claims multiple species of compositions in no way lessens the force of *Ruschig* as

relevant precedent here. Each of the claims in the '393 patent suffers from the same defect.

Attempting to distinguish *Ruschig*, the majority asserts that this is a *Ralston Purina* case, but the *Ralston Purina* opinion itself states that written description cases must be decided on a case-by-case basis. *See Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed.Cir.1985). In finding satisfaction of that requirement, it distinguishes a number of cases in which the requirement was not met "due to a number of different factors." *See id.* The case-by-case analysis advocated in *Ralston Purina* leads in this case to the reality that the requirement has not been satisfied.

I recognize that this is a jury trial and that the written description requirement is a question of fact concerning which we owe considerable deference. However, jury verdicts are not irreversible if substantial evidence is lacking. Substantial evidence is that minimum quantum of evidence from which a reasonable jury might afford relief. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249-50, 106 S. Ct. 2505, 91 L.Ed.2d 202 (1986) (holding that "merely colorable" or "not significantly probative" evidence is insufficient to meet the substantial evidence standard); *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229, 59 S. Ct. 206, 83 L. Ed. 126 (1938) ("Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion."). If a reasonable jury could not have found the facts necessary to support a verdict, the trial judge or reviewing court should reverse.

This is a highly complicated case, involving a patent that is difficult to fathom. One needs to analyze these claims the way one plans a trip, with a road map, in detail, on paper. Multiple claim dependencies and multiple claim limitations make the task difficult. The complexity of the case is further

increased by the way in which the patent application was prosecuted, with wholesale cancellation and addition of claims seemingly irrespective of whether their subject matter was properly disclosed. It is easy to see how one could go astray.

A reasonable juror is one who has done his or her homework, as described above, in order to determine what each claim covers, and where in the specification there is support for such claims. The result here speaks for itself. When such analysis is performed here, it is plain that the claimed compositions are not described in the patent. No reasonable jury, carefully reading and examining the patent specification, could conclude otherwise, *i.e.*, that the patent specification's descriptions of individual fuel characteristics or the teachings that multiple fuel characteristics can be varied in particular ways constitutes a sufficient written description of the compositions of any of the claims. I therefore respectfully dissent from the conclusion of the majority that the claims have not been shown to be invalid.

**UNITED STATES DISTRICT COURT**

**CENTRAL DISTRICT OF CALIFORNIA**

ATLANTIC RICHFIELD COMPANY,
CHEVRON U.S.A., INC.
EXXON CORPORATION,
MOBIL OIL CORPORATION,
SHELL OIL PRODUCTS COMPANY and
TEXACO REFINING AND MARKETING, INC.,

Plaintiffs,

v.

UNOCAL CORPORATION and
UNION OIL COMPANY OF CALIFORNIA,

Defendants.

No. CV-95-2379-KMW (JRx)

---

May 19, 1997

---

MEMORANDUM OF DECISION GRANTING IN PART AND DENYING IN PART PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT FOR CONSTRUCTION OF THE '393 PATENT AS A MATTER OF LAW AND FOR LACK OF NOVELTY

Before WARDLAW, District Judge.

The Court has considered Plaintiffs' Motion for Summary Judgment of Invalidity of the '393 Patent for Lack of Novelty. The Court **GRANTS** Plaintiffs' motion to the extent that it requests that the Court construe the patent. The Court finds as a matter of law that the patent applies to

traditional motor fuels designed for regular use in the common automobile. However, the Court **DENIES** the motion to the extent that it seeks to invalidate the patent, as it finds a genuine issue of material fact as to the novelty of the claimed invention.

## I. Background

Defendants Unocal Corporation and Union Oil Company of California ("Defendants") are the holders of United States Patent 5,288,393 (the "'393 patent"), dated February 22, 1994. The patent is entitled "gasoline fuel" and claims compositions producing an unleaded automotive fuel to reduce polluting emissions. The abstract of the patent reads as follows:

> By controlling one or more properties of a gasoline fuel suitable for combustion in automobiles, the emissions of $NO_x$, CO and/or hydrocarbons can be reduced. The preferred fuel for reducing all three such emissions has a Reid Vapor Pressure no greater than 7.5 psi (0.51 atm), essentially zero olefins, and a 50% D-86 Distillation Point greater than about 180 [degrees] F. (82 [degrees] C.) but less than 205 [degrees] F. (96.1 [degrees] C.)

'393 Patent Abstract.

Plaintiffs are competitor oil companies seeking a declaration of invalidity or unenforceability against the '393 patent on various grounds. The gist of this summary judgment motion is that the patent is invalid for lack of novelty under 35 U.S.C. § 102, if it is construed in the manner Plaintiffs suggest, and relevant prior art is taken into account. Plaintiffs' motion is based on an unrealistically broad construction of the patent. The Court construes the claims in a much narrower fashion. Having done so, however, the Court finds that there exists a genuine issue as

to whether the claims, as construed, teach a new improvement or merely state a new use for an existing fuel composition. Therefore, Plaintiffs' motion must be granted in part and denied in part.

## II. Claim Construction

Plaintiffs ask the Court to construe the patent broadly so as to encompass certain fuels urged as prior art. The Court agrees that the claim must be construed as the first step where infringement is at issue. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1581 (Fed. Cir. 1996). Therefore, the Court will treat this motion as a request for construction of the patent, and will proceed to determine as a matter of law the meaning of the claims.[1]

---

[1] Although Plaintiffs moved on April 23, 1997 for a *Markman* hearing, the need for such a hearing is belied by Plaintiffs' previous assertions in their moving papers and in oral argument. *See* Plaintiffs' Motion at 8 n.6 ("This motion for summary judgment turns on claim interpretation and presents the Court with the opportunity to resolve that issue prior to trial."); Transcript of Apr. 7, 1997 Hearing ("Tr.") at 8 lines 5-10 ("[A]nd another thing that we do agree on with both the defendants and with the Court is that you don't need to reach extrinsic evidence in this case. The intrinsic evidence is enough. We agree with you that it is unambiguous and that it can be decided and should be decided as a matter of law and on the intrinsic evidence."); Tr. at 12 lines 1-7 ("[A]gain, we agree that this is for you to decide and whether it's on summary judgment or *Markman*, you're going to tell us what this language means, and this trial is going to be determined by that decision. So this is essentially–the decision that you make on this motion will be . . . dispositive for the claim construction as we go forward.").

(continued...)

**A. General Principles**

Claim construction is a matter of law for the trial court. *Markman v. Westview Instruments, Inc.*, 116 S. Ct. 1384, 1393 (1996). The court evaluates the meaning of the patent based on intrinsic evidence, which includes the plain language of the patent, the specification, and the prosecution history. *Vitronics,* 90 F.3d at 1582. "It is well-settled that in interpreting an asserted claim, the court should look to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Id.* at 1582 (citations omitted). If analysis of intrinsic evidence leaves an ambiguity, the court may consider extrinsic evidence, such as expert testimony; however, if, as here, the patent is unambiguous, resort to

---

(footnote continued)

Clearly, Plaintiffs had fully intended that the claim be construed based on the papers and evidence submitted in support of this motion. Apparently Plaintiffs altered this position upon reviewing the Court's tentative decision indicating that while the Court agreed that the issue of claim construction was properly before it, it disagreed with Plaintiffs' interpretation of the claims.

The Court finds that the claims are unambiguous and can be construed by examining the intrinsic evidence here submitted without need for further clarification. Accordingly, it would be legal error to consider extrinsic evidence, rendering any further evidentiary material to be submitted in the requested *Markman* hearing inappropriate for the Court's consideration. Therefore, the Court denies Plaintiffs' request.

extrinsic evidence constitutes legal error. *Vitronics*, 90 F.3d at 1583. The rationale behind this restriction is that the intrinsic evidence constitutes the public record for the patent; the public and competitors are entitled to rely on that record. *Id.* "Allowing the public record to be altered or changed by extrinsic evidence introduced at trial, such as expert testimony, would make this right meaningless. The same holds true whether it is the patentee or the alleged infringer who seeks to alter the scope of the claims." *Id.*

**B. Intrinsic Evidence**

The following analysis of the intrinsic evidence of the meaning of the '393 patent leaves no ambiguity as to the proper construction of its claims.

**1. Patent Language**

The language in the '393 patent specification describes with striking clarity the coverage of the claims, and "serves as a concordance for the terms used in the claims." I Donald S. Chisum, *Patents* G1-21. The specification references auto emissions explicitly: one must stretch to attempt to impose any other meaning on the claims. The patent throughout contains numerous references to automobiles that can leave no doubt in the mind of a reader that the invention is intended solely for automobile fuel. The project was embarked upon specifically to address the problem of auto emissions in congested cities contributing to smog:

> The present invention relates to fuels, particularly gasoline fuels, and combustion methods therefor, and methods for preparing gasoline fuels which, upon combustion, minimize the release of CO, $NO_x$, and/or hydrocarbon emissions to the atmosphere.
>
> One of the major environmental problems confronting the United States and other countries is atmospheric pollution (i.e.,

> "smog") caused by the emission of gaseous pollutants in the exhaust gases from automobiles. This problem is especially acute in major metropolitan areas, such as Los Angeles, Calif., where the atmospheric conditions and the great number of automobiles account for aggravated air pollution.
>
> It is well known that the three primary gaseous constituents, or pollutants, which contribute to air pollution due to auto exhaust are nitrogen oxides ($NO_x$), carbon monoxide (CO), and unburned or incompletely burned hydrocarbons (i.e., hydrocarbon components originally present in the gasoline fuel which are not fully converted to carbon monoxide or dioxide and water during combustion in the automobile engine).

Col. 1:4-24. The fuel was tested only on popular models of automobiles. Figs. 1-9, Col. 7:60 - Col. 13:45. The patent discusses the fuel solely as applied to automobiles and refers to the fuel as being used by "the motoring public." The patent is rife with explicit discussions of the invention's use, confined to the automobile context. For example:

> While the invention may be used to advantage even on a small volume basis, e.g., a single automobile operating with a fuel composition of the invention for a week or for at least 200 consecutive miles, it is clear that the benefits offered by the invention are best taken advantage of when a large number of automobiles operating with spark induced internal combustion engines requiring a gasoline fuel are powered with the fuel of the invention.

Col. 15:47-55. Further,

> To provide for the needs of such high population density areas, it may be necessary to supply the fuel composition of the invention from more than one refinery, and to deliver it to a large fraction of the gasoline service stations in such area . . . so that a large number of automobiles can be supplied with the inventive fuel on a daily basis . . . .

Col. 17:31-38. The intent of the inventors to design an automobile fuel specifically for use in reducing polluting emissions could scarcely be clearer.

The patent's usage of terms and properties to distinguish between the patented gasolines and regular automobile gasoline illustrates the benefits and improvements of the invention, but does not, as Plaintiffs claim, indicate that the patented fuels are part of a broader category. For example, the patent language: "If at least 50% of the fuel sold . . . were a composition of the invention, it is believed . . . that reductions in auto emissions . . . as high as 20% *as compared to the typical gasoline fuel* could be observed" simply shows that the patented fuels improve upon traditional fuels. Col. 16:9-15 (emphasis added). Similarly, patent specifications for the new fuel that differ from those of typical gasoline fuels, including differences in the normal amounts of olefins and paraffins, and properties normally associated with specialty gasolines rather than automobile gasolines, further indicate the changes that the '393 patent brings to the art. References to gasolines meeting the industry standards for automotive gasoline as the "most preferred embodiments" of the invention do not constitute a limitation on the claim. *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1068 (1989).

The patent presents the invented fuel as an automotive fuel, with characteristics unique to such fuels:

> In view of the foregoing, it can be seen that the invention offers many advantages, not the least of which are the obvious health benefits associated with reduced air pollutants emitted to the atmosphere from automobiles, trucks, and other gasoline powered motor vehicles. Additionally, the invention can be put into immediate practice; current refining equipment can be employed to produce the low polluting fuels of the invention. Moreover, the invention offers the petroleum refiner a great deal of flexibility, for the invention is highly adaptable to a wide variety of hydrocarbon refinery streams. More specifically, since the description hereinbefore shows the effect of different variables, the refiner is not constrained to producing one particular fuel, but has several options, depending on what hydrocarbon streams are at hand and what properties of the fuel can be most easily altered.

Col. 17:40-56. These characteristics of refinery mass-production, blending of components, and adaptability of composition are characteristic of automotive gasolines for general use, and not of specialty gasolines.

The preamble, "[a]n unleaded gasoline fuel, suitable for combustion in an automotive engine," similarly supports this interpretation. Language in a claim preamble may be interpreted, on the facts of each case, to be either a statement of use or purpose for the invention, as Plaintiffs argue here, or as an actual limitation on the scope of the claim, as Defendants argue. On the facts of this case, Defendants' interpretation is correct.

This case is controlled by the analysis set forth in *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 868

F.2d 1251 (Fed. Cir. 1989). There, the Federal Circuit found that the preamble language was a limitation because it revealed the particular problem that the inventors sought to resolve, and was therefore necessary to give meaning to the rest of the claim:

> The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of *what the inventors actually invented and intended to encompass by the claim.* Here, the '915 specification makes clear that the inventors were working on the particular problem of an effective optical communication system[,] not on general improvements in conventional optical fibers. *To read the claim in light of the specification indiscriminately to cover all types of optical fibers would be divorced from reality.*

*Corning Glass Works*, 868 F.2d at 1257 (emphasis added); *see also Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995) (stating the "well-settled" general principle of patent law that "a claim preamble has the import that the claim as a whole suggests for it. In other words, when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects."); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994) (stating strongly that the preamble may be considered in the claim construction process when it relates to the intent of the inventor: "Although no 'litmus test' exists as to what effect should be accorded to words contained in a preamble, review of a patent in its entirety should be made to determine whether the inventors intended such language to represent an additional structural limitation or mere introductory language."); *Marston v. J. C. Penney Co.*, 353 F.2d 976, 986

(4th Cir. 1965) (preamble not a limitation when it merely states a purpose or intended use and the rest of the claim fully defines the invention; if preamble is necessary to give the claim meaning or is "essential to point out the invention," it is a limitation.), *cert. denied*, 385 U.S. 974 (1966).

More recently, the Federal Circuit similarly affirmed the district court's interpretation of language in the preamble as constituting a limitation on the claims. *Applied Materials, Inc. v. Advanced Semiconductor Materials*, 40 U.S.P.Q.2d 1481, 1487-88 (Fed. Cir. 1996). The Court noted that the purpose and context of the invention were clear from the specifications, and that the term "cold purge" in the preamble must be "interpreted in light of the problem the . . . patent solved." *Applied Materials*, 40 U.S.P.Q.2d at 1488. It also approved the district court's construction of the preamble language as setting a context in which to read the specification: "This context requires construing the literal meaning of the claims as limited to the process wherein electrostatic contamination is formed and removed." *Id.* at 1488.

As with the patents in *Applied Materials* and *Corning Glass Works*, the '393 patent's references to automobile emissions and the problem the invention is intended to solve stamp an indisputably clear meaning and context onto the patent, distinct from the broader context Plaintiffs would suggest. Although it is true that "suitable for combustion in an automotive engine" can be stretched to include any fuel that *could be burned*, this construction is nonsensical in light of the patent's clear intent to reduce auto emissions: there is no meaningful interpretation other than a limit to fuels that will *regularly* be used in autos, not that conceivably could be. The specification language leaves no doubt that the invention is to reduce the overall level of noxious emissions from automobiles, which implies, as well as necessitates, regular use by large numbers of the motoring public.

Plaintiffs rely upon *Constant v. Advances Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir.), *cert. denied*, 488 U.S. 892 (1988). There, the court held that the limitations the inventor claimed were essential to the patent were not limitations, but merely described an embodiment of the invention. The *Constant* court noted that the inventor had neither defined terms in the patent in a way that supported his assertions, nor implicitly suggested such an interpretation in the text. However, the '393 patent, unlike the patent in *Constant*, clearly suggests in the text that the fuels are for automobile use. Further, Defendants' '393 patent, unlike the patent in *Constant*, does not contain language to the effect that the fuel "may be any one of a number of types, the exact type to be determined by the application." *Constant*, 848 F.2d at 1571. The court cited many cases for the proposition that "[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Id.* However, again *Constant* is readily distinguishable, because in *Constant* "[a] reading of the specification *provides no evidence* to indicate that these limitations must be imported into the claims to give meaning to the disputed terms." *Id.* at 1571.

The language of the patent is unambiguous. Plaintiffs' interpretation is a tortured attempt to expand the scope of the patent by seizing on trivialities that, considered in context, do nothing to alter the patent's plain import. The patent is intended to encompass only traditional automotive fuels. To paraphrase *Corning Glass Works*, "to read the claim in light of the specification indiscriminately to cover all types of fuels that could be burned in an automotive engine would be divorced from reality."

**2. Prosecution History**

The Court should also evaluate the patent's prosecution history, if in evidence. "[T]he record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims." *Vitronics*, 90 F.3d at 1582; *see also Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 116 S. Ct. 1384 (1996). An examination of the prosecution history and the references contained therein may assist the court in interpreting the language in the patent, and the patentee's "avowed understanding . . . when his application . . . was pending" may confirm the construction. *Markman*, 52 F.3d at 980 (quoting *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 227 (1880)).

The prosecution history of the '393 patent confirms the Court's construction of its express language. Defendants' Appendices Vols. 3, 4. The prior art and other references contained in the disclosure statements overwhelmingly concern automotive gasoline compositions or gasoline emission studies. *See, e.g.*, Disclosure Statement Nos. 1, 2, 3, 8, 10. In Disclosure Statement No. 7, a number of potentially relevant references are brought to the attention of the patent examiner, but to the extent that any of these claim gasolines not generally considered for automobile use, their significance is expressly disclaimed:

> [W]hen applicants state, as they do above, that the references do not remotely suggest the invention, this is truly believed to be the case. The references individually and in combination do not suggest the environmental advantages applicants discovered with respect to the compositions' claims, i.e., their usefulness in producing lower amounts of pollutants from gasoline combusted in an automotive engine.

Although the prosecution history contains occasional mentions of non-automotive gasolines, in particular the racing fuels, aviation fuels, and alkylates on which Plaintiffs fixate, it is clear that the inventors intended and represented that the invention was for regular use in automobiles, designed to reduce air pollutant emissions. No other reasonable interpretation could be given to these materials.

## III. Lack of Novelty

Having construed the patent, the Court must next determine whether the patented invention is novel, or merely a new use for a previously existing composition. The requirement of novelty lies at the heart of patentability:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . . .

35 U.S.C. § 101. The Court finds that a genuine issue of material fact exists as to whether the claims, as herein construed, are novel.

The Federal Circuit, in a trilogy of cases, has explored the requirements to establish a composition as novel. In *Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775 (Fed. Cir. 1985), the inventor sought to patent an alloy composition previously disclosed in a Russian article but defined in the invention by new properties. The court noted that the invention "discovered or invented and disclosed knowledge which is not to be found in the reference," *Titanium Metals*, 778 F.2d at 780, but recognized that the newness of the invention was a separate inquiry. *Id.* The court rejected the argument that the application disclosed certain previously unknown inherent properties of the alloys, because the alloys themselves had been previously known. *Id.* at 782. Significantly, in *Titanium Metals*, the inventor did not claim

that the invention was compositionally new, but rather that the disclosure of new properties made it separately patentable.

*E.I. DuPont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430 (Fed. Cir. 1988), involved a patent for two groups of copolymers. The patentees conceded that one group was disclosed by prior art. *DuPont*, 849 F.2d at 1434. The other claims, however, included specific property limitations that were not part of the prior art. The court rejected the challenger's argument that, under *Titanium Metals*, these limitations were "merely property limitations that cannot serve to distinguish the claims." *Id.* at 1435. The court instead recognized that where a composition is produced from the same components but by a different process, the specification of additional properties may assist in defining and describing the new composition:

> It is clear, therefore, that the district court correctly regarded the claimed interpolymers as compositions that can be permissibly defined in terms of structure and properties. Thus, the issue is not, as in *Titanium*, whether one can get a patent on discovering a new property of an old composition of matter. The issue is whether the claimed copolymer, as defined in part by various property parameters, is new. In *Titanium*, once the alloy disclosed in the prior art reference was determined to possess the structural limitations of the claim, the burden shifted to the applicants to show that the alloy disclosed in the reference did not possess the claimed property. Here, however, Phillips has not shown that their interpolymers of ethelyne and higher alpha olefins possess the property limitations set forth in the claims.

*Id.* at 1435-36.

The last of the trilogy is *In re Spada,* 911 F.2d 705 (Fed. Cir. 1990). *Spada* concerned an adhesive composition. The patent application was rejected for lack of novelty, based on a prior art reference made with a "virtual identity of monomers and procedures"; Spada had merely disclosed a new use. *Spada*, 911 F.2d at 708. "The discovery of a new property or use of a previously known composition, even when that property and use are unobvious from prior art, can not impart patentability to claims to the known composition." *Id.* Spada did not show, as the court required, that the composition itself was different to meet the requirements of *DuPont.*

Given this legal analysis and the construction of the '393 patent as limited to typical automotive fuels, Plaintiffs have not met their burden on a motion for summary judgment of demonstrating that no issue of material fact exists. Plaintiffs argued for a construction of the patent that was broad enough to encompass certain specialty fuels. However, as the Court has rejected the broad construction and limited the patent to traditional automotive fuels, a question remains as to whether the specialty fuels are prior art under the Court's construction. It remains disputed whether the patent merely reveals new properties of a previous invention, as in *Titanium Metals* and *Spada*, or whether it teaches a new process defined by the properties of the resulting composition, as in *DuPont.* Therefore, the motion as to invalidity of the patent for lack of novelty must be denied.

## IV. Conclusion

Accordingly, the Court finds, as a matter of law, that the intrinsic evidence regarding the '393 patent leaves no ambiguity as to the meaning of the patent and grants Plaintiffs' motion for claim construction, finding it would be erroneous to resort to extrinsic evidence to construe the patent. The '393 patent is construed in accordance with its

plain meaning: It teaches unleaded gasoline fuels intended for regular use in automobiles, *i.e.*, traditional motor gasoline to be mass-produced at typical refineries for the general motoring public.

Plaintiffs' motion for summary judgment of invalidity is denied as a genuine factual dispute exists as to the novelty of the invention.

**IT IS SO ORDERED.**

**UNITED STATES DISTRICT COURT**
**CENTRAL DISTRICT OF CALIFORNIA**

UNION OIL COMPANY OF CALIFORNIA,

Plaintiff,

v.

ATLANTIC RICHFIELD COMPANY,
CHEVRON U.S.A., INC.
EXXON CORPORATION,
MOBIL OIL CORPORATION,
SHELL OIL PRODUCTS COMPANY and
TEXACO REFINING AND MARKETING, INC.,

Defendants,

No. CV-95-2379-KMW

---

March 10, 1998

---

ORDER DENYING DEFENDANTS' MOTION FOR JUDGMENT AS A MATTE R OF LAW

Before WARDLAW, District Judge.

The Court has read and considered all of the papers filed by the parties in connection with Defendants' Motion for Judgment as a Matter of Law ("JMOL"). Pursuant to Local Rule 7.11, the Court has dispensed with oral argument as it deems it unnecessary and not otherwise required by the rules governing this motion. Based on all briefs, exhibits, declarations, and other evidence submitted by the parties, as well as all files and records in this case, the Court is prepared

to rule on this motion and hereby **DENIES** Defendants' motion for judgment as a matter of law.

## I. Legal Standard

The Defendants have timely moved for a renewed judgment as a matter of law pursuant to Federal Rule of Civil Procedure 50(b), having previously moved for a judgment as a matter of law pursuant to Fed. R. Civ. P. 50(a).[1] A Rule 50(b) judgment as a matter of law is proper when the evidence allows only one reasonable conclusion as to the verdict. *Venegas v. Wagner*, 831 F.2d 1514, 1517 (9th Cir. 1987). The evidence must be viewed in the light most favorable to the nonmoving party, and all reasonable inferences must be drawn in favor of that party. *Id.* A JMOL is improper if reasonable minds could differ over the verdict. *Id.* In assessing the motion, the trial judge is not vested with the power to weigh evidence and must, issue a ruling of law. 9 James Wm. Moore, *Moore's Federal Practice* § 50.03 (3d ed. 1997); *see also Wilson v. United States*, 645 F.2d 728, 729 (9th Cir. 1981) ("The trial judge does not act as factfinder."). A patent holder's claims are entitled to the presumption of validity, and it is defendant's burden to show, by clear and convincing evidence, their invalidity. *Gillette Co. v. S.C. Johnson & Son, Inc.*, 9 19 F.2d 720, 723 (Fed. Cir. 1990).

---

[1] The standard of review of a judgment as a matter of law is the same whether the motion is submitted pre-verdict or post-verdict. *Moore's Federal Practice* at § 50.02[2].

## II. Analysis

Defendants assert several claims in support of their JMOL. Regarding each, Defendants set forth "evidence of record which would be sufficient to lead any reasonable jury" to find for Defendants. *See* JMOL at 1.25 n.1. As a general matter, this Court is hesitant to disturb the findings of fact rendered by the jury from the evidence. The liability phase of the trial lasted 49 court days, the Court received hundreds of exhibits into evidence, and the jury deliberated for 13 days and unanimously answered 222 questions on the Special Verdict form. It is the Court's opinion that the jury carefully weighed the evidence, and that its findings of fact are entitled to substantial consideration.

### A. Invention Date

Defendants first argue that Unocal failed to establish for any '393 patent claim an "invention" date prior to the patent application filing date. JMOL at 1:1-23. They claim that Unocal's "conception evidence" is inadequate to support the verdict because it did not disclose the combination of property ranges required by any undisclaimed claim, the evidence failed to satisfy the legal requirement of independent corroboration, and that a jury could not have concluded that the 15P2 fuel constituted a reduction to practice. The invention date was the subject of testimony by inventors Drs. Jessup and Croudace, and of an affidavit by Mr. Steve Woods introduced as independent corroboration evidence. Plaintiff introduced contemporaneous computer records which supported the March 30, 1990 invention date. Defendants' argument amounts to no more than a challenge to the sufficiency of the evidence and the jury's conclusions from the same. Because the Court finds that reasonable people could disagree over the conclusion to be drawn from the evidence, it declines to overturn the findings of the jury with respect to this issue.

**B. Novelty**

Defendants' second claim is that the '393 patent is invalid for lack of novelty. The defense of lack of novelty "can only be established by a single prior art reference which discloses each and every element of the claimed invention." *Structural Rubber Products Co. v. Park Rubber Co.*, 749 F.2d 707, 715 (Fed. Cir. 1984); *Scripps Clinic & Research Found. v. Genetech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991) ("Invalidity for anticipation requires that all of the elements and limitations of the claims are found within a single prior art reference.").

Defendants argue that prior art gasolines introduced into evidence satisfy the Court's claim construction of "traditional motor gasolines to be mass-produced at typical refineries for the general motoring public," JMOL at 2:7-8, and that all of the prior art gasolines anticipate one or more '393 patent claims." *Id.* at 2:8-16. Defendants point to numerous transcript references detailing various fuels which satisfy certain property limitations of several claims. JMOL at 4-7. Here, the jury had the task of considering whether the identified fuels constituted invalidating prior art, and found that they did not. The Court finds that the evidence was sufficient to show that no single prior art reference disclosed each and every element of the claimed invention, and as a result, does not find the patent invalid on this ground.

**C. Obviousness**

Obviousness is a legal determination that may be submitted to the jury with proper instructions. *In re Hayes Microcomputer Products Patent Lit.*, 982 F.2d 1527, 1539 (Fed. Cir. 1992). Though obviousness is a question of law, it is based on "underlying factual inquiries which are issues for the trier of fact." *Modine Mfg. Co. v. Allen Group, Inc.*, 917 F.2d 538, 541 (Fed. Cir. 1990) (citations omitted). These factual issues are: (1) the scope and content of the prior art, (2) the differences between the most pertinent prior art and

the claimed invention, (3) the level of ordinary skill in the art, and (4) the objective evidence of secondary considerations of obviousness." *Id.* Though the ultimate question of obviousness is an issue regarding which the court must make an independent decision, the court may not make its own factual findings on this issue independent from the jury. *Newell Companies, Inc. v. Kenney Mfg. Co.*, 864 F.2d 757, 765 (Fed. Cir. 1988). A jury's resolution of evidentiary conflicts to establish the facts is the essence of its role in the trial: "Judges must accept the factual findings, presumed from a favorable jury verdict, which are supported under the substantial evidence/reasonable juror standard." *Id.*

Defendants assert that any reasonable jury would have found the '393 patent invalid in view of the prior art. JMOL at 17:15-15. They assert that several prior art gasolines existed which had properties "that differed in only trivial respects from the claims of the '393 patent." JMOL at 8:5-9. The Court's claim construction identified traditional motor fuels for the general motoring public specifically to distinguish these fuels from specialized fuels such as racing and aviation fuels. Much testimony focused on the differences between these two categories of fuels. To the extent that Defendants wish this Court to find that aviation and racing fuels constitute prior art for the '393 patent, it is asking the Court to reconsider its original claim construction, which would more appropriately have been requested in a motion to reconsider the claim construction or which Defendants should present on appeal. To the extent that Defendants ask the Court to find that these fuels constituted prior art to the '393 patent, they ask this Court to disagree with the findings of fact as rendered by the jury on a matter that was appropriately for it to decide. Extensive testimony was presented by Drs. Jessup and Croudace, Mr. Cunningham and Mr. Miller regarding the nature of the compositional differences among categories of fuels. The weight and credibility of their testimony as it bore on what

constituted prior art is a determination upon which, in this Court's opinion, reasonable jurors could have disagreed. Additionally, with respect to individual specifications and properties of claimed prior art references and the differences between these references and the patent, as stated above, the Court respects the factual findings of the jury rendered from the evidence in the record. In accepting the findings of fact regarding prior art rendered by the jury, the Court holds that the findings of fact are sufficient to establish the legal conclusion that the patent was not invalid for obviousness.

### D. Written Description Requirement of 35 U.S.C. § 112

Patent code 35 U.S.C. § 112 requires:

> "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor carrying out his invention."

The standard for determining whether the written description requirement has been met has been described by the Federal Circuit:

> Although [the applicant] does not have to describe exactly the subject matter claimed, . . . the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed. . . . The test for sufficiency of support in a parent [sic] application is whether the disclosure of the application relied upon reasonably conveys to

> the artisan that the inventor had possession at that time of the later claimed subject matter.

*In re Hays Microcomputer*, 982 F.2d 1527, 1533 (Fed. Cir. 1992), citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). Whether the written descriptions have been met is a question of fact, reviewed by the court under the substantial evidence standard, and requiring affirmance unless Defendants show that no reasonable juror could have reached such a result. *In re Hays Microcomputer*, 982 F.2d at 1532-33. The court is to determine whether substantial evidence exists in the record to support the verdict. *Id.* at 1533.

Defendants argue that none of the combinations of property ranges set forth in any disclaimed claim appears in the specification as it was originally filed, and that as a result, the claims are invalid for lack of a supporting written description. JMOL at 19:12-14, 19:22-24. However, whether a patent is invalid for lack of a written description turns not on whether the specifications as filed set forth each and every facet or descriptor of the invention, but whether the written description is sufficient to be satisfied that the claimed inventor did in fact invent the patented work. *See In re Hays, supra.* In this case, the Court finds that substantial evidence exists in the record regarding the written description to support the verdict that Drs. Jessup and Croudace had possession of the claimed subject matter, and therefore does not find the patent invalid for lack of a written description.

Defendants' second argument that the claims as construed by the Court are invalid, JMOL at 20:21-22, is an attack on the Court's claim construction. Additionally, Defendant's next claim that the patent is invalid because it fails to distinctly claim the subject matter of the invention, JMOL at 22:16-22, is similarly a challenge to the Court's claim construction, and is therefore insufficient to support a finding that the patent is invalid.

**E. Enablement**

Section 112 of the 35 U.S.C. requires the specification be "enabling" only to a person "skilled in the art to which it pertains, or with which it is most nearly connected." Donald S. Chisum, *Chisum on Patents* at 3:7.03[2] (1997), citing *DeGeorge v. Bernier*, 768 F.2d 1318 (Fed. Cir. 1985). Invalidity for lack of enablement "is a conclusion of law and must be supported by facts proved by clear and convincing evidence, for the grant of the patent by the PTO carries with it the presumption of validity including compliance with § 112." *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990), *cert. denied*, 498 U.S. 920 (1990).

Defendants argue that the patent is invalid for lack of enablement because the claims, as construed by the Court, were defined in such a way that they were limited to "traditional motor gasolines" and as such render the specification non-enabling. JMOL at 23:15-24:8. Again, this argument is no more than a dispute with the Court's claim construction, and is insufficient to establish nonenablement. That standard requires that such a person be able to recreate the claimed invention based on the disclosures set forth in the patent; it does not require that the invention actually be made and marketed by a person skilled in the art. The Court finds that the evidence was sufficient to show that the patent was enabling to a person of ordinary skill in the art, and is not invalid on this ground.

**F. Infringement**

Literal infringement may be found when the accused invention falls within the asserted claims as properly construed. *In re Hayes Microcomputer Products Patent Lit.*, 982 F.2d 1527, 1541 (Fed. Cir. 1992). The patentee has the burden of proving infringement by a preponderance of the evidence. *Id.* The determination of literal infringement is a question of fact. *Id.*

As a question of fact, the jury determined that Defendants' gasoline did infringe the '393 patent. This Court does not find any reason to overturn the jury's factual finding on this issue, and cannot issue a contrary ruling of law.

In this case, the Court finds that reasonable fact-finders evaluating the evidence could have found that the patent was valid and infringed as set forth above, and hereby **DENIES** Defendants' motion for judgment as a matter of law.

**IT IS SO ORDERED.**

UNITED STATES COURT OF APPEALS,
**FEDERAL CIRCUIT**

UNION OIL COMPANY OF CALIFORNIA,
Plaintiff-Appellee,
v.
ATLANTIC RICHFIELD COMPANY, *et al.*,
Defendants-Appellants.
No. 99-1066

---

May 18, 2000

---

Before MAYER, Chief Judge, LOURIE and RADER, Circuit Judges.

ORDER

A combined petition for panel rehearing and rehearing en banc having been filed by the APPELLANTS, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc having been referred to the circuit judges who are in regular active service,

Upon consideration thereof, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on May 25, 2000.

Circuit Judge SCHALL did not participate in the vote.

## THE ORIGINAL 60 COMPOSITION CLAIMS OF THE '393 PATENT

| Claim | RVP (psi) | T10 (° F) | T50 (° F) | T90 (° F) | Olefins (Vol. %) | Paraffins (Vol. %) | Aromatics (Vol. %) | Octane Rating |
|---|---|---|---|---|---|---|---|---|
| 1 | ≤ 8.0 | | ≤ 215 | | | | | |
| 2 | ≤ 8.0 | | ≤ 215 | | < 10 | | | |
| 3 | ≤ 8.0 | | ≤ 205 | | < 10 | | | |
| 4 | ≤ 8.0 | ≤ 140 | ≤ 205 | | < 10 | | | |
| 5 | ≤ 8.0 | | ≤ 205 | | < 10 | ≥ 65 | | |
| 6 | ≤ 8.0 | | < 200 | | < 10 | | | |
| 7 | ≤ 8.0 | | < 195 | | < 10 | | | |
| 8 | ≤ 8.0 | | < 195 | | <10 | > 75 | | |
| 9 | ≤ 8.0 | | < 195 | | < 5 | | | |
| 10 | ≤ 8.0 | | < 190 | | < 5 | | | |
| 11 | ≤ 8.0 | | < 190 | | < 2 | | | |
| 12 | ≤ 8.0 | | < 185 | | < 2 | | | |
| 13 | ≤ 8.0 | | < 185 | | < 1 | | | |
| 14 | ≤ 8.0 | | < 185 | | < 0.5 | | | |
| 15 | ≤ 8.0 | | > 180, < 185 | | < 0.5 | | | |
| 16 | ≤ 8.0 | | > 180, < 185 | | < 0.5 | ≥ 90 | | |

## THE ORIGINAL 60 COMPOSITION CLAIMS OF THE '393 PATENT

| Claim | RVP (psi) | T10 (° F) | T50 (° F) | T90 (° F) | Olefins (Vol. %) | Paraffins (Vol. %) | Aromatics (Vol. %) | Octane Rating |
|---|---|---|---|---|---|---|---|---|
| 17 | ≤ 8.0 | | > 180, < 185 | | 0 | | | |
| 18 | ≤ 8.0 | ≤ 135 | > 180, < 185 | ≤ 315 | 0 | | | RON ≥ 90 |
| 19 | ≤ 8.0 | | > 180, ≤ 205 | | < 5 | | | |
| 20 | ≤ 8.0 | | > 180, ≤ 205 | | < 0.5 | | | |
| 21 | ≤ 8.0 | | > 180, ≤ 205 | | 0 | | | |
| 22 | ≤ 7.5 | | > 180, ≤ 205 | | 0 | | | |
| 23 | ≤ 7.5 | | > 180, ≤ 205 | | < 0.5 | | | |
| 24 | ≤ 7.0 | | > 180, ≤ 205 | | 0 | | | |
| 25 | ≤ 7.0 | | > 180, ≤ 205 | | < 0.5 | | | |
| 26 | ≤ 7.5 | ≤ 135 | > 180, ≤ 205 | ≤ 315 | 0 | | | RON ≥ 90 |
| 27 | ≤ 7.5 | ≤ 135 | > 180, ≤ 205 | ≤ 315 | 0 | | ≥ 35 | RON ≥ 90 |
| 28 | ≤ 7.5 | ≤ 120 | > 180, < 200 | ≤ 315 | 0 | ≥ 85 | | RON ≥ 90 |
| 29 | ≤ 7.5 | ≤ 120 | > 180, < 200 | ≤ 300 | 0 | ≥ 85 | No MTBE | RON ≥ 90 |
| 30 | ≤ 8.0 | | ≤ 215 | | < 5 | | | |
| 31 | ≤ 8.0 | | ≤ 215 | | < 2 | | | |
| 32 | ≤ 8.0 | | ≤ 215 | | < 0.5 | | | |

## THE ORIGINAL 60 COMPOSITION CLAIMS OF THE '393 PATENT

| Claim | RVP (psi) | T10 (° F) | T50 (° F) | T90 (° F) | Olefins (Vol. %) | Paraffins (Vol. %) | Aromatics (Vol. %) | Octane Rating |
|---|---|---|---|---|---|---|---|---|
| 33 | ≤ 8.0 | | ≤ 205 | | | | | |
| 34 | ≤ 8.0 | | ≤ 200 | | | | | |
| 35 | ≤ 8.0 | | ≤ 195 | | | | | |
| 36 | ≤ 8.0 | | ≤ 190 | | | | | |
| 37 | ≤ 7.5 | | ≤ 215 | | | | | |
| 38 | ≤ 7.0 | | ≤ 215 | | | | | |
| 39 | ≤ 8.0 | | < 208 | | | | | |
| 40 | ≤ 8.0 | | ≤ 206 | | < 1 | | | |
| 41 | | | ≤ 205 | | < 3 | | | |
| 42 | | | > 180, ≤ 205 | | < 3 | | | |
| 43 | ≤ 8.0 | | > 180, ≤ 200 | | < 1 | | | |
| 44 | | | > 180, ≤ 195 | | < 3 | | | |
| 45 | ≤ 8.0 | | | | | ≥ 40 | | |
| 46 | ≤ 8.0 | | | | | > 50 | | |
| 47 | ≤ 8.0 | | | | | > 65 | | |
| 48 | ≤ 8.0 | | | | < 15 | ≥ 40 | | |

## THE ORIGINAL 60 COMPOSITION CLAIMS OF THE '393 PATENT

| Claim | RVP (psi) | T10 (° F) | T50 (° F) | T90 (° F) | Olefins (Vol. %) | Paraffins (Vol. %) | Aromatics (Vol. %) | Octane Rating |
|---|---|---|---|---|---|---|---|---|
| 49 | ≤ 8.0 | | | | < 1 | ≥ 40 | | |
| 50 | ≤ 7.5 | | | | < 1 | ≥ 40 | | |
| 51 | ≤ 7.5 | | | | 0 | ≥ 40 | | |
| 52 | ≤ 7.0 | | | | < 1 | ≥ 40 | | |
| 53 | ≤ 7.5 | | | | < 1 | ≥ 75 | | |
| 54 | ≤ 7.5 | | | | < 15 | | No MTBE | |
| 55 | ≤ 7.5 | | | | < 10 | | No MTBE | |
| 56 | ≤ 7.5 | | | | < 5 | | No MTBE | |
| 57 | ≤ 7.5 | | | | < 2 | | No MTBE | |
| 58 | ≤ 7.5 | | | | 0 | | No MTBE | |
| 81 | ≤ 8.0 | | ≤ 215 | | | | * | |
| 82 | ≤ 8.0 | | ≤ 215 | | | | ** | |

* To red. emis. by 20% comp. to A/O AVE

** To red. emis. by 10% comp. to A/O AVE

# THE 41 UNDISCLAIMED CLAIMS OF THE '393 PATENT

| Claim Number | Properties Claimed | | | | | | |
|---|---|---|---|---|---|---|---|
| | RVP psi | T10 °F | T50 °F | T90 °F | Olefins Vol. % | Paraffins Vol. % | Octane (R+M)/2 |
| 20 | < 7.5 | | > 180 ≤ 203 | | < 0.5 | > 75 | |
| 53 | ≤ 7.0 | | | | < 10 | > 85 | ≥ 87 |
| 54 | ≤ 7.0 | | | | < 10 | > 85 | ≥ 92 |
| 56 | ≤ 7.0 | | | | < 10 | > 80 | ≥ 92 |
| 57 | ≤ 7.0 | | | | < 10 | > 77 | ≥ 92 |
| 71 | ≤ 7.0 | | ≤ 205 | | < 10 | | ≥ 92 |
| 72 | ≤ 7.0 | | ≤ 200 | | < 10 | | ≥ 92 |
| 73 | ≤ 7.0 | | ≤ 200 | | < 6 | | ≥ 92 |
| 74 | ≤ 7.0 | | ≤ 200 | ≤ 300 | < 6 | | ≥ 92 |
| 75 | ≤ 7.0 | | ≤ 200 | | < 4 | | ≥ 92 |
| 78 | ≤ 7.0 | | ≤ 210 | | < 6 | | ≥ 92 |
| 79 | ≤ 7.0 | | ≤ 210 | | < 4 | | ≥ 92 |
| 81 | ≤ 7.0 | | ≤ 200 | ≤ 300 | | | ≥ 92 |

# THE 41 UNDISCLAIMED CLAIMS OF THE '393 PATENT

| Claim Number | Properties Claimed | | | | | | |
|---|---|---|---|---|---|---|---|
| | RVP psi | T10 °F | T50 °F | T90 °F | Olefins Vol. % | Paraffins Vol. % | Octane (R+M)/2 |
| 112 | ≤ 7.0 | | ≤ 210 | | < 10 | > 75 | |
| 113 | ≤ 7.0 | | ≤ 210 | | < 4 | > 75 | |
| 114 | ≤ 7.0 | | ≤ 210 | | < 4 | > 85 | |
| 115 | ≤ 7.0 | | ≤ 200 | | < 4 | > 75 | |
| 116 | ≤ 7.0 | | ≤ 200 | ≤ 300 | < 4 | > 85 | |
| 117 (53) | ≤ 7.0 | ≤ 158 | | | < 10 | > 85 | ≥ 87 |
| 117 (73) | ≤ 7.0 | ≤ 158 | ≤ 200 | | < 6 | | ≥ 92 |
| 117 (78) | ≤ 7.0 | ≤ 158 | ≤ 210 | | < 6 | | ≥ 92 |
| 117 (112) | ≤ 7.0 | ≤ 158 | ≤ 210 | | < 10 | > 75 | |
| 117 (116) | ≤ 7.0 | ≤ 158 | ≤ 200 | ≤ 300 | < 4 | > 85 | |
| 117 (125) | ≤ 7.0 | ≤ 158 | ≤ 205 | | < 6 | > 75 | |
| 120 (55) | ≤ 6.8 | ≤ 158 | | | < 10 | > 80 | ≥ 87 |
| 120 (78) | ≤ 6.8 | ≤ 158 | ≤ 210 | | < 6 | | ≥ 92 |
| 120 (79) | ≤ 6.8 | ≤ 158 | ≤ 210 | | < 4 | | ≥ 92 |
| 120 (124) | ≤ 6.8 | ≤ 158 | ≤ 205 | | < 6 | > 75 | |

## THE 41 UNDISCLAIMED CLAIMS OF THE '393 PATENT

| Claim Number | Properties Claimed | | | | | | |
|---|---|---|---|---|---|---|---|
| | RVP psi | T10 °F | T50 °F | T90 °F | Olefins Vol. % | Paraffins Vol. % | Octane (R+M)/2 |
| 121 (55) | ≤ 6.5 | ≤ 158 | | | < 10 | > 80 | ≥ 87 |
| 121 (78) | ≤ 6.5 | ≤ 158 | ≤ 210 | | < 6 | | ≥ 92 |
| 121 (79) | ≤ 6.5 | ≤ 158 | ≤ 210 | | < 4 | | ≥ 92 |
| 121 (124) | ≤ 6.5 | ≤ 158 | ≤ 205 | | < 6 | > 75 | |
| 125 | ≤ 7.0 | | ≤ 205 | | < 6 | > 75 | |
| 126 | ≤ 7.0 | | ≤ 200 | | < 6 | > 75 | |
| 127 | ≤ 7.0 | | ≤ 200 | ≤ 315 | < 6 | > 75 | |
| 133 | ≤ 7.0 | | ≤ 205 | | | > 85 | |
| 134 | ≤ 7.0 | | ≤ 200 | | | > 85 | |
| 135 | ≤ 7.0 | | ≤ 210 | | | > 85 | |
| 137 | ≤ 7.0 | | ≤ 200 | | | > 75 | |
| 153 | < 7.0 | ≤ 158 | | | | > 80 | ≥ 87 |
| 155 | ≤ 6.8 | ≤ 158 | | | | > 82 | ≥ 87 |

JA472

MOTION FILED

SEP 13 2000

(2)

No. 00-249

IN THE

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, *et al.*,
*Petitioners*,

v.

UNION OIL COMPANY OF CALIFORNIA, INC.,
*Respondent.*

**On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit**

## MOTION FOR LEAVE TO FILE BRIEF *AMICI CURIAE* AND BRIEF *AMICI CURIAE*

G. WILLIAM FRICK
DAVID T. DEAL
JOHN E. REESE
AMERICAN PETROLEUM INSTITUTE
1220 L Street, N.W.
Washington, D.C. 20005

MICHAEL F. MCBRIDE
(*Counsel of Record*)
JOHN W. LAWRENCE
LEBOEUF, LAMB, GREENE & MACRAE, L.L.P
1875 Conn. Ave., Suite 1200
Washington, D.C. 20009
(202) 986-8000

ROBERT G. SLAUGHTER
MAURICE H. MCBRIDE
NATIONAL PETROCHEMICAL & REFINERS ASSOCIATION
1899 L Street, N.W.
Washington, D.C. 20036

GREGORY R. MCCLINTOCK
MAYER, BROWN & PLATT
COUNSEL FOR WESTERN STATES PETROLEUM ASSOCIATION
350 So. Grand Ave., 25th Fl.
Los Angeles, CA 90071

*Attorneys for Amici Curiae*

WILSON-EPES PRINTING CO., INC. – (202) 789-0096 – WASHINGTON, D. C. 20001

27pp

# MOTION FOR LEAVE TO FILE BRIEF *AMICI CURIAE* OF AMERICAN PETROLEUM INSTITUTE, NATIONAL PETROCHEMICAL & REFINERS ASSOCIATION, AND WESTERN STATES PETROLEUM ASSOCIATION

---

American Petroleum Institute ("API"), National Petrochemical & Refiners Association ("NPRA"), and Western States Petroleum Association ("WSPA") hereby respectfully move, pursuant to Rule 37.2 of the Rules of this Court, for leave to file the attached brief as *amici curiae*. Although Petitioners have consented to the filing of this brief, the Respondent has refused to consent to the filing of this brief.

API, NPRA, and WSPA represent virtually all U.S. petroleum refiners and most of the U.S. petroleum industry. Many members of API, NPRA, and WSPA expend large sums of money to produce reformulated gasoline ("RFG"). RFG is mandated by federal and state laws to be sold in about one-third of the country where significant air quality problems may justify RFG's increased cost. Respondent Union Oil Company of California, Inc. ("Unocal") has extraordinary claims to patents for a large number of combinations of RFG that have caused some refiners to reduce their production of RFG to avoid claims of infringement. The continuation of the RFG program is threatened in part because all of Unocal's patents on RFG derive from the one that was upheld below. *Amici* respectfully submit that they are well-positioned to assist the Court in understanding the issues in this case and their significance.

*Amici* contend that the courts below have incorrectly upheld the validity of a patent for products whose properties are, in significant respects, set forth in federal and state statutes and regulations. Respondent Unocal claims (or is expected to

claim) that essentially all RFG manufactured in the United States in conformance with law infringes its patents, and therefore will impose substantial additional cost on such sales, in the amount of nearly one hundred million dollars per year in the State of California alone, and substantial amounts elsewhere as well. *Amici* not only have an interest in resolving the validity of Unocal's patent, but also have an interest in assuring that the decisions of the courts below will not create confusion or uncertainty in patent law.

For the foregoing reasons, *amici* respectfully request leave to file the attached brief.

Respectfully submitted,


G. William Frick
David T. Deal
John E. Reese
American Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005

Michael F. McBride
(*Counsel of Record*)
John W. Lawrence
LeBoeuf, Lamb, Greene
& MacRae, L.L.P.
1875 Conn. Ave., Suite 1200
Washington, D.C. 20009
(202) 986-8000

Robert G. Slaughter
Maurice H. McBride
National Petrochemical &
Refiners Association
1899 L Street, N.W.
Washington, D.C. 20036

Gregory R. McClintock
Mayer, Brown & Platt
Counsel for Western States
Petroleum Association
350 So. Grand Ave., 25th Fl.
Los Angeles, CA 90071

*Attorneys for Amici Curiae*


September 2000

## TABLE OF CONTENTS


Page

TABLE OF AUTHORITIES ..... ii

STATEMENT OF INTEREST OF *AMICI CURIAE* ..... 1

REASONS FOR GRANTING THE WRIT ..... 5

I. UPHOLDING UNOCAL'S PATENTS WILL DISCOURAGE PRODUCTION OF RFG, THUS HARMING AIR QUALITY AND THWARTING CONGRESSIONAL INTENT..... 5

II. UNOCAL'S PATENT WAS INVALID BECAUSE IT DID NOT INVENT ANYTHING, BUT RATHER TRACKED THE REGULATORY REQUIREMENTS FOR RFG COMPOSITION.. . . 8

A. Federal Statutory and Regulatory Framework. . 8
B. California's Regulatory Program for RFG. . . . 12
C. Unocal's Patent Application Was Tailored to CARB's Proposed Requirements for RFG. . . . 14
D. Unocal Amended All of Its Claims to "Resemble" Changes in CARB's Requirements. 14
E. The Logic of the Second Circuit's Decision to Invalidate a Copyright, the Language of Which Was Required by Federal Law, Should Also Invalidate Unocal's Patents. . . . . 17

III. UNOCAL'S PATENT WAS FOR OLD PRODUCTS, NOT NEW INVENTIONS, AND THUS SHOULD BE DECLARED INVALID. . . . 17

CONCLUSION. ..... 19

## TABLE OF AUTHORITIES

**Page(s)**

***Cases***

*American Petroleum Inst. v. EPA*,
52 F.3d 1113 (D.C. Cir. 1995) ..... 6

*American Petroleum Inst. v. EPA*,
198 F.3d 275 (D.C. Cir. 2000) ..... 2,13

*General Electric Co. v. Jewel Incandescent Lamp Co.*,
326 U.S. 242 (1945) ..... 18

*McCarthy v. Lehigh Valley R. Co.*,
160 U.S. 110 (1895) ..... 18

*In re Ruschig*, 379 F.2d 990 (CCPA 1967) ..... 16

*SmithKline Beecham, Inc. v. Watson Pharmaceuticals, Inc.*, 211 F.3d 21 (2d Cir.), *cert. pending*, No. 00-019, 69 U.S.L.W. 3023 (July 3, 2000) .... 17

*Union Oil Company of California, Inc. v. Atlantic Richfield Co., et al.*, No. CV-95-2379-KMW, slip. ops. (C.D. Cal. May 19, 1997, and Mar. 10, 1998), *aff'd*, 208 F.3d 989 (Fed. Cir. 2000) .... 1,4,9

***Federal Statutes***

35 U.S.C. § 101 ..... 18

35 U.S.C. § 102(a) ..... 18

35 U.S.C. § 112 ..... 14

Clean Air Act, as amended, 42 U.S.C. § 7401, *et seq.:*

Section 211(c)(4)(B), 42 U.S.C. § 7545(c)(4)(B) .. 2
Section 211(k), 42 U.S.C. § 7545(k) ..... 1,10
Section 211(k)(1), 42 U.S.C. § 7545(k)(1) ... 10,11
Section 211(k)(3), 42 U.S.C. § 7545(k)(3) ..... 10

***Federal Regulations***

40 C.F.R. § 80.45 (1999) ..... 10

***State Regulations***

CAL. CODE REGS., tit. 13:

Section 2262.1 (2000) ..... 2,15
Section 2262.4 (2000) ..... 15
Section 2262.6 (2000) ..... 15
Section 2262.7 (2000) ..... 15

***Federal Register***

38 Fed. Reg. 1,254 (Jan. 10, 1973) ..... 8

54 Fed. Reg. 11,868 (March 22, 1989) ..... 8

55 Fed. Reg. 23,658 (June 11, 1990) ..... 8

59 Fed. Reg. 7,716 (Feb. 16, 1994) ..... 10,11

***Miscellaneous***

CALIFORNIA ADVISORY BOARD ON AIR QUALITY AND FUELS, 1 REPORT TO THE CALIFORNIA LEGISLATIVE (Oct. 2, 1989) ..... 12

CALIFORNIA AIR RESOURCES BOARD, REFORMULATED GASOLINE: PROPOSED PHASE 1 SPECIFICATIONS, STAFF REPORT (Aug. 13, 1990) ..... 12,13

CALIFORNIA AIR RESOURCES BOARD, 1 PROPOSED REGULATIONS FOR CALIFORNIA PHASE 2 REFORMULATED GASOLINE, STAFF REPORT (Oct. 4, 1991) ..... 13

KEITH OWEN AND TREVOR COLEY, AUTOMOTIVE FUELS REFERENCE BOOK (2nd ed. 1995) ..... 8

LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993):

S. 1630, 101st Cong. (1989) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) ..... 8

136 CONG. REC. S2806 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) ..... 9

136 CONG. REC. S3502 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990(1993) ..... 9

136 CONG. REC. H2765 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990 (1993) ..... 9

Michael Liedtke, *Fuel Patent Could Drive Up Prices at Pump Nationwide*, THE COMMERCIAL APPEAL, June 2, 2000 ..... 6

NATIONAL PETROLEUM COUNCIL, 1 U.S. PETROLEUM REFINING - MEETING REQUIREMENTS FOR CLEANER FUELS AND REFINERIES (August 1993) ..... 7

U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA REPORT ON VEHICLE PERFORMANCE WITH PHASE II RFG, EPA420-R-99-025 ..... 11

*Unocal Extends Offer of Limited Amnesty to Spur Patent Talks*, THE WALL ST. J. (Aug. 21, 2000) ..... 3

# BRIEF *AMICI CURIAE* OF THE AMERICAN PETROLEUM INSTITUTE, NATIONAL PETROCHEMICAL & REFINERS ASSOCIATION, AND WESTERN STATES PETROLEUM ASSOCIATION

## STATEMENT OF INTEREST OF *AMICI CURIAE*[1]

American Petroleum Institute ("API"), National Petrochemical & Refiners Association ("NPRA"), and Western States Petroleum Association ("WSPA") (collectively, "*amici*") together represent virtually all U.S. petroleum refiners and most of the U.S. petroleum industry. *Amici* and their members have an interest in this case because Unocal has been awarded Patent No. 5,288,393 (the "'393 patent") and four other patents that derive from the '393 patent that extend to additional formulations of "reformulated gasoline" ("RFG"), a cleaner form of gasoline which (with some variations) is *required* by federal and state laws to be sold in about one-third of the United States, generally where air pollution is worst. The members of API, NPRA, and WSPA made enormous investments to produce RFG. That investment is now threatened, however, because the validity of Unocal's '393 patent was upheld below (Pet. App. 32a-56a), and affirmed by a 2-1 decision of the Federal Circuit (Pet. App. 1a-31a), Judge Lourie dissenting.

In 42 U.S.C. § 7545(k), Congress mandated that certain geographical areas of the nation use RFG, and that other areas may do so if they are not in attainment with the National

---

[1] Pursuant to SUP. CT. R. 37.6, no person or entity other than *amici curiae* has made monetary contributions toward the preparation or submission of this brief, and no counsel for any party has authored this brief in whole or in part.

Ambient Air Quality Standard ("NAAQS") for ozone. *See American Petroleum Inst. v. EPA*, 198 F.3d 275, 281 (D.C. Cir. 2000). As a result of these provisions, approximately 30 percent of the Nation's gasoline is RFG.

Under the Clean Air Act, California has unique statutory rights to establish criteria for fuels sold within its borders that go beyond the requirements of federal law. 42 U.S.C. § 7545(c)(4)(B). The State of California has established its own more stringent requirements, through the California Air Resources Board ("CARB"), for RFG. CAL. CODE REGS., tit. 13, § 2262.1, *et seq.* The State of California has had rules requiring cleaner gasoline since 1971, when it first regulated Reid vapor pressure ("RVP"), a measure of gasoline volatility.

This case arose because Union Oil Company of California ("Unocal") gamed the system by convincing the U.S. Patent and Trademark Office that it had invented RFG needed by Petitioners and other refiners to comply with regulatory requirements. In reality, gasolines covered by Unocal's claims (i.e., fuels "suitable for combustion in an automobile engine") had been used in racing vehicles for many years, and other gasoline covered by the claims in the '393 patent had also been made since the 1970s for aviation purposes. The racing gasoline had actually been marketed for use in street-legal automobiles. Unocal did little more than write down in its patent application the broad ranges of properties that Congress or CARB had already considered, so as to "resemble" CARB's requirements. JA 562.[2]

---

[2] After Unocal's patent application was amended -- four times (at least two of which were after CARB issued its proposed rules) -- so as to "resemble" the changing regulatory requirements, and after its patent was

(continued...)

The effect of the judgment of the Federal Circuit, unless overturned by this Court, is to subject Petitioners to claims of infringement for a significant percentage of the RFG they make for sale in California, potentially requiring payment of 5.75 cents per gallon. The amount Unocal claims is about one hundred million dollars per year in California alone, if not more.

As bad as that is, it is not the end of the story. Unocal now contends that virtually *any* RFG composition sold, used, distributed, or blended anywhere in the United States infringes on one or more of Unocal's patents.[3] *Amici* are unaware of any case in which a court has ever held that property limits which were claimed in a patent following their mandate in a statute or regulation may be patented, let alone a substance so vital, and so much in demand, as is gasoline.

The uncertainty created by Unocal's extraordinary claims has caused some refiners to reduce their production of RFG to avoid claims of infringement on one or more of Unocal's patents. *See* Pet. at 9-10. Unfortunately, these entirely understandable actions have contributed to the recent reductions in RFG supply in the Midwest which the Federal Trade Commission suggests may have increased its price. *Id.*

---

[2](...continued)
issued, Unocal's spokesman *then* gloated that "we believe that almost any gasoline that would be practical to make and meet state [i.e., California] requirements would fall under the scope of our patent." JA 473.

[3] In early August 2000, Unocal threatened United States gasoline refiners (many if not all of whom are members of *amici*) with infringement lawsuits and punitive damages for the manufacture of RFG unless they quickly executed licensing agreements with Unocal. *See Unocal Extends Offer of Limited Amnesty to Spur Patent Talks*, THE WALL ST. J. (Aug. 21, 2000), p. B13.

It would be one thing if Unocal had invented RFG, then convinced the United States Environmental Protection Agency ("EPA") or the State of California to require that its invention be used. API, NPRA, and WSPA could not object to that; if the government were to conclude that the public interest is served by mandating the sale of an essential product only in its patented form, the patent system is not a bar to such an outcome.

But that is not what happened here. Unocal did not invent anything because gasoline falling within the scope of its claims has been marketed for years. Yet the District Court gave instructions to the jury not to consider, as within Unocal's claims, i.e., fuels that meet the specific property limitations of the claims and are "suitable for combustion in an automotive engine," and as a result the jury was able to reach the findings of fact that it did. Pet. at 41a, 46a-47a.

By failing to include an adequate written description in its application, by amending its claims to "resemble" the regulatory requirements as enacted, and also by not disclosing its patent application to CARB, EPA, or the industry, Unocal used the patent system to put refiners in a regulatory/patent law trap, the result of which will cause harm to the public. In many instances, if not all, either the public will pay more for RFG (if the royalties to be paid to Unocal are passed through to the consumer), or it will have less RFG available for use (due to cutbacks in production, as CITGO has already done), or both. Pet. at 9-10.

## REASONS FOR GRANTING THE WRIT

The Court should grant a writ of certiorari to address whether a patent is valid when it merely copies existing or proposed regulatory requirements or fails to describe what was eventually covered. Moreover, this case raises questions of exceptional public importance with respect to air quality and economic harm to the Nation that also justify issuance of the writ.

### I. UPHOLDING UNOCAL'S PATENTS WILL DISCOURAGE PRODUCTION OF RFG, THUS HARMING AIR QUALITY AND THWARTING CONGRESSIONAL INTENT.

Unocal has not only patented something it did not invent, but also it seeks to exploit the obligation of refiners, if they are to sell gasoline at all in California, to sell only RFG which Unocal claims to be covered by its '393 patent or other related patents. This raises matters of profound public policy concern. Unocal's actions not only expose refiners or their ultimate customers to higher costs and potentially higher prices,[4] but in doing so Unocal has discouraged refiners from continuing to produce RFG so as to avoid infringing on Unocal's patents. The uncertainty over Unocal's patents already has affected gasoline supply in the Midwest, and thus presumably prices, by discouraging refiners from producing the amount of RFG they

---

[4] Unocal was held to be entitled to about 90 million dollars (including interest) for just a five-month portion of 1996, with litigation continuing about other time periods.

would otherwise have produced, as discussed *supra*.[5] This is a significant issue for California as well as much of the Nation.

The Clean Air Act as amended mandates sale of RFG in certain geographical areas of the country to reduce air pollution. *See American Petroleum Inst. v. EPA*, 52 F.3d 1113 (D.C. Cir. 1995). RFG achieves air quality benefits for some pollutants, such as air toxics (e.g., benzene), nitrogen oxides ("NOx"), and volatile organic compounds ("VOCs"). Thus, Unocal's claims of patent infringement directly discourage the production of a product that Congress has determined is important to public health. The State of California in its *amicus curiae* brief (at 1) on rehearing before the Federal Circuit noted: "Unocal abused the patent process by trying to patent the results of a joint public-private effort to improve public health, in an effort to hijack California's administrative regulatory process to obtain monopoly power in the market for cleaner-burning gasoline."

Recent events, including new regulatory requirements for RFG sold in the Midwest and production decisions by oil-producing countries, have caused certain States to seek suspension of the RFG program and sparked calls from some public officials to consider repealing it. The possibility that some gasoline sold, used, distributed, or blended outside of California will also be found to infringe one or more of Unocal's patents has only exacerbated the problem. Such actions would be contrary to public policy because of the need to reduce air pollution in certain identified areas.

---

[5] See Michael Liedtke, *Fuel Patent Could Drive Up Prices at Pump Nationwide*, THE COMMERCIAL APPEAL, June 2, 2000, at C2.

Unocal's patent also undermines public policy for other reasons. When refiners and others were obliged to meet more stringent requirements for the RFG they sell, they made substantial changes to their refineries, at great expense. Indeed, some estimates of the cumulative impact of all of EPA's recently adopted or proposed requirements on refineries approximate or exceed the entire net book value of those refineries.[6] Because such investments were made entirely at the risk of the refiner, a subsequent decision to suspend or reverse the RFG requirements previously imposed leaves the refiner with unnecessary investments and exposed to the risk that other refiners who did not make such appropriate investments may be able to produce gasoline for less. There is no public benefit in such wasted investments or in harming refiners who make substantial investments to comply with governmental mandates.

If those who sell RFG in certain areas continue to do so while paying Unocal royalties, it is likely to cause consumers to incur higher prices for gasoline at no public benefit. The total cost to the Nation of such royalties is itself a reason to grant a writ of certiorari.[7]

---

[6] "Projected U.S. refining capital expenditures of $37 billion (1990 dollars) in the 1991-2000 period for product quality (cleaner transportation fuels) and stationary source regulatory compliance exceed the total net fixed asset base of U.S. refineries of $31 billion at the start of this period." NATIONAL PETROLEUM COUNCIL, 1 U.S. PETROLEUM REFINING - MEETING REQUIREMENTS FOR CLEANER FUELS AND REFINERIES 5 (August 1993).

[7] Unocal's recent letters to United States gasoline refiners (*supra* note 3) are eloquent testimony of both the breadth of Unocal's nationwide claims and the hundreds of millions or billions of dollars at issue if Unocal's '393 patent is not invalidated.

## II. UNOCAL'S PATENT WAS INVALID BECAUSE IT DID NOT INVENT ANYTHING, BUT RATHER TRACKED THE REGULATORY REQUIREMENTS FOR RFG COMPOSITION.

### A. Federal Statutory and Regulatory Framework.

Government regulation of gasoline to reduce automobile emissions dates back to the 1970s. EPA's first regulatory actions under the Clean Air Act were to reduce the lead and phosphorus content of gasoline. *See* 38 Fed. Reg. 1,254 (Jan. 10, 1973)(col. 1). In 1989, EPA issued its first regulation directed at reducing gasoline volatility by reducing its Reid vapor pressure ("RVP"), 54 Fed. Reg. 11,868 (March 22, 1989)(col. 1), followed by a second round of regulations that reduced RVP even further. *See* 55 Fed. Reg. 23,658 (June 11, 1990)(col. 1). Reducing RVP reduces emissions of smog-causing VOCs.

In 1989, Congress seriously considered a bill that contained a provision to further regulate gasoline by reducing RVP, and a provision that would have required EPA to promulgate regulations to improve fuel quality by reducing emissions of hydrocarbons[8], NOx, particulate matter, and hazardous air pollutants. S. 1630, 101st Cong. (1989) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 9169-70 (1993). Although clean gasoline

---

[8] The hydrocarbons that make up a typical gasoline are divided into three broad groups -- aromatics, olefins, and paraffins. KEITH OWEN AND TREVOR COLEY, AUTOMOTIVE FUELS REFERENCE BOOK (2nd ed. 1995). Once olefins are limited, for example, essentially to zero, and aromatics are limited to less than 25 percent, as CARB did, it necessarily follows that paraffins will constitute about 75 percent or more of the hydrocarbons in gasoline.

requirements and proposals had been published for years, the first significant amendment leading to the RFG program ultimately enacted was a Senate amendment (Wirth-Wilson) on March 20, 1990, that would have required reductions in aromatics, VOCs, toxics, and CO emissions. 136 CONG. REC. S2806-07 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 5951-52 (1993). Another similar amendment was introduced on March 29, 1990, by Senators Daschle, Dole, and Harkin, focused on reducing emissions of NOx, hydrocarbons, CO, and aromatics. 136 CONG. REC. S3502-07 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 6782-88 and 6816-18 (1993).[9] Congressmen Richardson and Madigan introduced another version in the House on May 23, 1990, that focused on controlling aromatics, oxygen content, VOCs, and other potentially hazardous emissions. 136 CONG. REC. H2765-66 (1990) *reprinted in* LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 2058-2065 and 2693-2703 (1993).

At the same time Congress was contemplating action on legislation to mandate the sale of RFG in certain areas to reduce emissions, refiners were individually moving forward with efforts to introduce lower emission gasolines. The debates surrounding these amendments demonstrate that the relationship between fuel parameter control and emissions reduction was understood by this time, and Congress was also aware that numerous petroleum companies were marketing what was referred to as RFG. Ultimately, the Daschle-Dole-Harkin

---

[9] Notably, both Senate amendments were introduced *before* the "invention" date of Unocal's patent of March 30, 1990. Pet. at 50a. Thus, Unocal claims to have invented something, substantial components of which had already been set out in proposed legislation.

amendment and the Richardson-Madigan amendment were reconciled in conference and were enacted as 42 U.S.C. § 7545(k).

As enacted on November 15, 1990, section 211(k)(1) of the Clean Air Act, 42 U.S.C. § 7545(k)(1), required EPA to promulgate regulations to control, *inter alia,* emissions of VOCs, NOx, and toxics from use of gasoline. Specifically, EPA was required to ensure that NOx emissions did not increase, and that VOC and air toxic emissions were reduced to the greatest extent achievable taking into consideration costs and other factors. In addition to these general requirements, 42 U.S.C. § 7545(k)(3) specifically required that emissions of VOC and air toxic pollutants be reduced by 15 percent in Phase I of the RFG program (1995-2000) and 25 percent in Phase II (2000 and thereafter). It also provided, however, that the Administrator could adjust the Phase II standards depending on technological feasibility and costs.

The details of the RFG program on the Federal level were developed during a regulatory negotiation sponsored by EPA and actively participated in by Unocal, and in the subsequent EPA rulemaking process. EPA developed a complex computer model that describes the relationship between fuel parameters and gasoline VOC, NOx, and air toxics emission performance.[10] After developing this model, EPA analyzed refinery models to estimate the cost of controlling the individual fuel parameters. Based on these analyses, EPA promulgated

---

[10] EPA's "complex model" uses mathematical formulae to calculate total VOC, NOx, and air toxics performance as a function of seven fuel characteristics -- oxygen, sulfur, RVP, aromatics, benzene, olefins, and distillation properties. 40 C.F.R. § 80.45 (1999). With the help of the "complex model," EPA estimated the costs associated with adjusting each of the fuel characteristics. *See* 59 Fed. Reg. 7,716, 7,750 (Feb. 16, 1994).

what it believed at the time were (as here relevant) cost-effective Phase II VOC, NOx, and air toxics performance standards. These computations led EPA to ultimately conclude that reductions of RVP offered a cost-effective means of satisfying Congressional intent to reduce VOC and air toxics emissions without increasing NOx emissions. *See* 59 Fed. Reg. 7,716, 7,750 & Table VI-1 (Feb. 16, 1994).

For example, limiting RVP to 6.7 psi reduced estimated VOC emissions by 25.5 percent but was estimated to cost only 0.26 cents per gallon, while a reduction in sulfur would have reduced VOC emissions by only an additional 1.9 percent while estimated to cost 0.92 cents per gallon. *Id.* Based on these values, it is clear that EPA would have regarded an additional cost of 5.75 cents per gallon royalty to be paid Unocal as substantial and unreasonable, given that EPA estimated the *total* costs of the Phase II RFG program for refiners to be 4 to 7 cents per gallon. 59 Fed. Reg. at 7,810 (col. 1).

Based on its evaluation of emission impacts *and refining costs* (as section 211(k)(1) of the Clean Air Act requires it to do), EPA adopted its stringent Phase II VOC, NOx, and air toxics standards on gasoline with properties that fall within the scope of Unocal's patents. U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA REPORT ON VEHICLE PERFORMANCE WITH PHASE II RFG, EPA420-R-99-025, Appendix E.

Had EPA known of Unocal's plans for patenting the RFG requirements at the time its regulations were promulgated, EPA might well have concluded that the cost of Unocal's patents was too great to impose on refiners and, based on this history, might have imposed less-stringent RFG requirements, taking into account the cost of the Unocal patent claims. The Unocal patent claims, therefore, if upheld, could seriously impact the

regulatory judgments that EPA has made and must continue to make, and could lead to an increase in air pollution, a cutback in the scope of the federal RFG program, or both.

**B. California's Regulatory Program for RFG.**

The process of developing reformulated gasolines for use in California began in 1987, when the Governor appointed an advisory board to evaluate the feasibility of developing a new formula gasoline that would be equivalent to or cleaner than emissions from then-existing gasolines. CALIFORNIA ADVISORY BOARD ON AIR QUALITY AND FUELS, 1 REPORT TO THE CALIFORNIA LEGISLATIVE, at 1-2 (Oct. 2, 1989). Unocal's current Chairman was appointed by the Governor to serve as a member of the advisory board. *Id.* at iv. To facilitate increased use of cleaner fuels, the advisory board recommended that CARB promulgate new regulations containing air quality based performance standards for vehicle fuels. *Id.* at 6-8 and 26-27.

By 1990, based in part on the efforts of the advisory board, CARB had begun the process of amending its existing regulations to promulgate appropriate requirements for cleaner gasoline to be sold in California. CARB held a workshop in March 1990 on such matters, and other workshops were held throughout 1990 "to discuss the basis for the proposals, projected emission inventories, emission reduction estimates, cost estimates, and the regulatory language." CALIFORNIA AIR RESOURCES BOARD, REFORMULATED GASOLINE: PROPOSED PHASE 1 SPECIFICATIONS, STAFF REPORT, at 6 (Aug. 13, 1990).

CARB's Staff Report on the results of those workshops included the views that the Staff would recommend to the Board, in a section entitled "What is the staff considering for Phase 2 gasoline specifications?" *Id.* The CARB Staff Report

explained that various programs and studies were then underway, with industry participation that "will provide information which can be incorporated into the development of the Phase 2 specifications." *Id.* Among the criteria then under consideration were a reduction in RVP to 7.0 psi, and limits on aromatics, olefins, benzene, and oxygen. *Id.* Unocal and others participated in the process and suggested regulatory criteria. CALIFORNIA AIR RESOURCES BOARD, 1 PROPOSED REGULATIONS FOR CALIFORNIA PHASE 2 REFORMULATED GASOLINE, STAFF REPORT, at 28 (Oct. 4, 1991).

In the 1990 Amendments to the Clean Air Act, Congress required RFG to be sold in significant portions of California and other areas where there were substantially elevated concentrations of ozone. Congress also provided for its use in other parts of California and in other areas classified as "nonattainment" areas for ozone. *See American Petroleum Inst. v. EPA*, 198 F.3d 275 (D.C. Cir. 2000). The month after the Clean Air Act Amendments of 1990 were enacted into law, Unocal filed its patent application for RFG.

Unocal thus relied on information gleaned from its participation in California regulatory process, as well as the EPA proceedings (*supra* Section II.A) to prepare its patent application, unbeknownst to the rest of the petroleum industry, CARB, EPA, or the public. Moreover, when CARB published its RFG rules in 1991, Unocal amended all of its claims to "resemble" CARB's rules. What good, after all, would be a patent on RFG that did not conform to CARB's rules? If it did not conform, it could not be licensed.

### C. Unocal's Patent Application Was Tailored to CARB's Proposed Requirements for RFG.

During development of the RFG requirements in Congress and at CARB, Unocal was preparing its application for the patent at issue in this case. Unocal's application was filed in December 1990, one month after passage of the 1990 Clean Air Act Amendments. The parameters stated for Unocal's "invention" were, for the most part, broad ranges for RFG properties -- *e.g.*, RVP up to 8.0 psi when CARB had already limited RVP to 7.8 -- rather than exact terms descriptive of unique combinations of properties defining a product, which were then amended to "resemble" CARB's revised regulations.[11] As such, Unocal's '393 patent failed to satisfy the statutory requirement that the application "contain a written description of the invention and of the manner and process of making and using it, in such *full, clear, concise, and exact terms*" so as to justify the award of a patent. 35 U.S.C. § 112 (emphasis added). These ranges corresponded either to then-applicable lawful ranges for gasoline that could be sold in California or to the proposed rules that CARB was expected to issue.

### D. Unocal Amended All of Its Claims to "Resemble" Changes in CARB's Requirements.

CARB and EPA then continued with their respective rulemaking proceedings over the next few years. As those proceedings, especially CARB's, developed in ways that differed from what Unocal had proposed in its application, Unocal

---

[11] The ranges that were included in the application were for things such as olefins, RVP, T10, T50, T90, and other characteristics. "T10," "T50," and "T90" are the temperatures at which 10 percent, 50 percent, and 90 percent of the gasoline vaporizes, respectively.

amended all of its claims to "resemble" CARB's new requirements.

For the convenience of the Court, we set out below, as here relevant, the amended requirements of CARB for RFG sold in California that were published or put into effect after Unocal had filed its patent application, and before it amended its application to "resemble" CARB's requirements:

| **Initial Patent Application** | **Final CARB Regulation/Limit** | **Amended Patent Application** |
|---|---|---|
| Taught T10 of ≤140°F. JA 1465, 13:54-56 to 14:44-48; JA 5493. | CARB did not limit T10. CAL. CODE REGS. tit. 13, § 2262.6 (2000). | Raise T10 to ≤158°F (the maximum allowed under CA law). JA 594-96, 972. |
| Preferred olefin content of 0%. JA 465. Most original claims limited olefin prescribed 0%-2%. JA 397. | Olefin flat limit of 6%, an average limit of 4%, and a cap of 10%. CAL. CODE REGS. tit. 13, § 2262.4 (2000). | 0% olefin restriction dropped; 33 of 34 claims limiting olefins specify the 4%, 6%, or 10% limitation mandated by CARB. JA 472. |
| Min. aromatics content at least 35% (JA 465: 14:63-68); one claim had 35% min. JA 386. | Limited aromatics to 25%; no min. rqmts. JA 573.2. CAL. CODE REGS. tit. 13, § 2262.7 (2000). | Removed the minimum aromatics limitation from its claims. JA 592.1-592. |
| Most claims limited RVP to ≤8.0 psi. JA 397. | 7.0 psi CAL. CODE REGS. tit.13, § 2262.1 (2000). | All but one claim now limit RVP to 7.0 psi or lower. |

A good example, displayed in the above Table, of a parameter for which no CARB requirement was imposed in CARB's final rules was T10. Unocal included a limit for T10 of 140 degrees Fahrenheit in its original patent application, with 120 degrees Fahrenheit as the preferred limit. When CARB did not include the 140-degree limit in its final rules, Unocal amended its application to specify a T10 limit of 158 degrees Fahrenheit, the maximum standard of the American Society of Testing and Materials ("ASTM").[12] These changes clearly illustrate that Unocal's patent application was nothing more than a recitation of whatever the applicable regulatory limit established. Unocal was not "inventing" RFG, but rather copying regulatory requirements -- a process that here created amended claims that bore little resemblance to the original claims. This is a violation of longstanding, black-letter patent law. *E.g., In re Ruschig*, 379 F.2d 990, 994-95 (CCPA 1967) (requiring "blaze marks" along the trail from the application as filed to the application as amended so as to ensure that the inventor was in possession of the invention on the date of the application).

What makes this case especially important to API, NPRA, WSPA, their members, and the consuming public is that Unocal did not just patent one or a few of the possible combinations of RFG that comply with CARB's requirements. Rather, Unocal claimed to have patented *all or nearly all possible combinations of RFG that would meet CARB's requirements* (*supra* notes 2 and 3).[13]

---

[12] Many States, including California, apply ASTM standards as minimum State requirements for commercial products sold therein.

[13] As the State of California so aptly put it in its *amicus curiae* brief (at 5) before the Federal Circuit:

(continued...)

### E. The Logic of the Second Circuit's Decision to Invalidate a Copyright, the Language of Which Was Required by Federal Law, Should Also Invalidate Unocal's Patents.

In *SmithKline Beecham, Inc. v. Watson Pharmaceuticals, Inc.*, 211 F.3d 21 (2d Cir.), *cert. pending*, No. 00-019, 69 U.S.L.W. 3023 (July 3, 2000), the Second Circuit invalidated a copyright for printed matter required for use in the sale of consumer products, in that case generic drugs. The Second Circuit's statement of its holding is instructive: "Appellees cannot be liable for copyright infringement because the Hatch-Waxman Amendments require generic drug producers to use the same labeling as was approved by the FDA for, and is used by, the producer of the pioneer drug." 211 F.3d at 29. The Federal Circuit's holding that Unocal's '393 patent is valid cannot be squared with the logic of the Second Circuit's opinion in *SmithKline Beecham*. *See* Pet. at 14-16.

## III. UNOCAL'S PATENT WAS FOR OLD PRODUCTS, NOT NEW INVENTIONS, AND THUS SHOULD BE DECLARED INVALID.

Petitioners convincingly demonstrate that the evidence of record is unrebutted that Unocal itself was making gasoline

---

[13](...continued)

Failure to strictly construe the written description requirement will encourage the filing of broad, preliminary, and ill-defined patent applications at the beginning of an administrative rulemaking process, followed by substantial amendments that conform more closely to the developing and ultimately-adopted regulatory requirements. This would all be achieved without disclosure to the rulemaking body, and distort the agency's ability to pursue the public interest. This is simply bad public policy.

for automobile racing purposes which also was "suitable for combustion in an automotive engine," to quote Unocal's patent, and that Chevron was making aviation gasoline since the 1970s that also was "suitable for combustion in an automotive engine." Unocal's racing gasoline was even marketed to everyday automobile drivers. Moreover, industry literature has long included compositions of gasolines covered by Unocal's patent at issue in this case. Pet. at 19-22. It follows that Unocal did not "invent" anything because products covered by its claims were made, marketed, or published in the literature, long before it filed its patent application. 35 U.S.C. § 101 (whoever "invents or discovers any new and useful ... composition of matter ... may obtain a patent").

The patent statutes clearly would have prevented the Patent Office from issuing the '393 patent to Unocal, had it known of the prior art, and should have caused the lower courts to invalidate the patent once the prior art became known. *See* 35 U.S.C. § 102(a) (prohibiting patent issuance if "the invention was known or used by others ... before the invention thereof by the applicant for the patent"). The result should not be different even though prior art gasolines were not intended as RFG for the general public. *McCarthy v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895) (courts lack power to rewrite claims to exclude products covered by them). Moreover, "it is not an invention to perceive that the product which others had discovered" could be utilized in ways that were not previously perceived. *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1948). Because Petitioners have covered this topic well in the Petition, *amici* simply adopt their argument.

## CONCLUSION

For the foregoing reasons, and those stated in the Petition, the Petition for a writ of certiorari to review the judgment of the Federal Circuit should be granted.

Respectfully submitted,

G. William Frick
David T. Deal
John E. Reese
American Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005

Michael F. McBride
(*Counsel of Record*)
John W. Lawrence
LeBoeuf, Lamb, Greene
& MacRae, L.L.P.
1875 Conn. Ave., Suite 1200
Washington, D.C. 20009
(202) 986-8000

Robert G. Slaughter
Maurice H. McBride
National Petrochemical &
Refiners Association
1899 L Street, N.W.
Washington, D.C. 20036

Gregory R. McClintock
Mayer, Brown & Platt
Counsel for Western States
Petroleum Association
350 So. Grand Ave., 25th Fl.
Los Angeles, CA 90071

*Attorneys for Amici Curiae*
September 2000

Supreme Court, U.S.
FILED
SEP 14 2000
CLERK

(3)

No. 00-249

**In The**
**Supreme Court of the United States**

---

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, and TEXACO REFINING AND MARKETING, INC.,

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA,

*Respondent.*

*On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit*

---

# RESPONDENT'S BRIEF IN OPPOSITION

---

RICHARD G. TARANTO
FARR & TARANTO
1850 M Street, N.W.
Suite 1000
Washington, D.C. 20036
(202) 775-0184

MARTIN R. LUECK
*Counsel of Record*
DAVID W. BEEHLER
DIANE L. SIMERSON
ROBINS, KAPLAN, MILLER & CIRESI, L.L.P.
2800 LaSalle Plaza
Minneapolis, MN 55402
(612) 349-8500

---

26pp

## QUESTIONS PRESENTED FOR REVIEW

1. Whether the extensive description in the application resulting in United States Patent No. 5,288,393, which recites several key characteristics of gasoline and the directions in which to vary those characteristics within certain ranges to produce less polluting exhaust emissions from automobiles, provided adequate support for the gasoline compositions claimed in the patent by defined ranges of the described characteristics.

2. Whether the court of appeals, in agreement with the district court, correctly construed the patent claims, thus establishing the novelty of the claimed compositions.

## RESPONDENT'S RULE 29.6 DISCLOSURE

Respondent is a wholly owned subsidiary of the Unocal Corporation.

## TABLE OF CONTENTS

Page

QUESTIONS PRESENTED ..... i

RESPONDENT'S RULE 29.6 DISCLOSURE ..... ii

TABLE OF CONTENTS ..... iii

TABLE OF AUTHORITIES ..... iv

OPINIONS BELOW ..... 1

STATEMENT ..... 1

A. Background ..... 1

B. District Court Proceedings ..... 4

C. The Court of Appeals Decision ..... 6

REASONS FOR DENYING THE PETITION ..... 9

A. The Lower Courts' Upholding of the Jury's Finding of Adequate Written Description Does Not Merit Review ..... 12

B. The Lower Courts' Claim Construction Does Not Merit Review ..... 16

CONCLUSION ..... 19

## TABLE OF AUTHORITIES

**Page(s)**

*Cases*

*Applied Materials, Inc. v. Advanced Semiconductor Materials*, 98 F.3d 1563 (Fed. Cir. 1996) .....17

*Davis v. United States*, 495 U.S. 472 (1990) .....12

*E.I. DuPont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430 (Fed. Cir. 1988) .....18

*General Elec. Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945) .....18

*General Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978 (Fed. Cir. 1997).....17

*In re Ruschig*, 379 F.2d 990 (CCPA 1967) .....8,15

*Kingsdown Medical Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867 (Fed. Cir. 1988) .....13

*Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) .....16, 17

*McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110 (1895).....17

*Northern Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281 (Fed. Cir. 2000) .....17

*Renishaw PLC v. Marposs Societa' per Azioni,*
158 F.3d 1243 (Fed. Cir. 1998) .....18

*Schall v. Martin,* 467 U.S. 253 (1984) .....12

*SmithKline Beecham Consumer Healthcare, L.P. v. Watson Pharmaceuticals, Inc.,* 211 F.3d 21 (2d Cir. 2000), petition for cert. filed (June 3, 2000) (No. 00-19) .....13, 14

*Union Oil Co. of California v. Atlantic Richfield,*
34 F. Supp. 2d 1208 (C.D. Cal. 1998) .....1, 5

*Union Oil Co. of California v. Chevron U.S.A. [sic, Atlantic Richfield],* 34 F. Supp. 2d 1222 (C.D. Cal. 1998) .....1, 6, 11

*Zenith Elecs. Corp. v. Exzec, Inc.,* 182 F.3d 1340 (Fed. Cir. 1999) .....14

***Statutes***

35 U.S.C. § 102 .....5

35 U.S.C. § 112 .....5

35 U.S.C. § 285 .....6

***Miscellaneous***

Congressional Research Service Memorandum, June 16, 2000.....11

## RESPONDENT'S BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

## OPINIONS BELOW

Petitioners omit mention of several opinions of the district court, including two that are reported. One decision rejected the Petitioners' contentions that Respondent Union Oil Company of California ("Unocal") committed inequitable conduct in prosecuting its application in the PTO. 34 F. Supp. 2d 1208. The second awarded Unocal attorney fees for petitioners' conduct of this litigation, including their assertion that Unocal derived its invention from an industry group and was equitably estopped from asserting infringement based on alleged lulling of the industry group into believing that Unocal would not enforce its patent rights. 34 F. Supp. 2d 1222.

## STATEMENT

### A. Background

In 1989, the automobile and oil industries launched a joint research program to learn how motor gasoline might be "reformulated" to reduce the harmful pollution from the exhaust emissions of millions of automobiles throughout the Nation, and, more particularly, in California. Petitioners as well as Unocal were part of this Auto/Oil group. The participants expressly agreed, when joining the program, to preserve their intellectual-property rights in the results of their own continuing individual research and development activities. Trial Transcript 1130-37.

When the Auto/Oil group proposed what characteristics of motor gasoline to study, Unocal's Drs. Jessup and Croudace concluded that the group's narrow focus on only four gasoline properties was not based on sound scientific considerations. They proposed that the group should analyze additional characteristics. The group rejected the proposal. Ct. App. JA 5008-27.

Drs. Jessup and Croudace pressed ahead with this broader experimentation concept on their own, using Unocal's research facilities and Unocal funding. *Id.* Their experiments studied ten gasoline properties for their emission effects, in contrast to the Auto/Oil group's study of only four properties. *Id.* at 5028-33. By March 30, 1990, they had determined that several properties could be carefully adjusted in certain directions in relation to each other (raising one, lowering another) to reduce automobile-exhaust emissions of targeted pollutants. *Id.* at 5037-39, 5042-44, 5060. These included T50, the Reid Vapor Pressure (RVP), T10, T90, olefin content, paraffin content, and octane. *See* Pet. App. 4a (explaining these properties).

Unocal, as assignee of the patent rights, filed a patent application for the invented cleaner gasoline compositions on December 13, 1990. *See* Ct. App. JA 447 (U.S. Patent No. 5,288,393, the '393 patent). Citing the problem of pollution from "the great number of automobiles," the extensive patent specification (18 columns in addition to the claims) describes pollution-reducing gasoline fuels that refiners can produce by "blending a plurality of hydrocarbon-containing streams," using the "knowledge of which properties of a gasoline fuel to alter, and in which direction (i.e., increased or decreased)," as taught in the patent. '393 Patent col. 1, lines 15, 49-50, 42-44; *see* Pet. App. 2a-3a (describing mixing of petroleum stocks to alter

key properties). Over the next three years, "[a]s is often the case during the course of prosecution, the inventor added and canceled many claims." Pet. App. 2a. The patent ultimately issued on February 22, 1994, with 155 claims – which Unocal ultimately reduced to 41 claims (by disclaiming the remainder). *Id.*

Specific motor gasoline compositions, with characteristics defined by specified numerical ranges of the T50, RVP, and other properties, are claimed as inventions in these claims. Each claim begins with a preamble claiming "[a]n unleaded gasoline fuel, suitable for combustion in an automotive engine" or "in a spark ignition automotive engine." '393 Patent cols. 18-26; *see* Pet. App. 2a-3a. The compositions are then further defined in the claims not by specific molecular makeup but by the controlled combination of characteristics such as T50 and RVP, as well as other chemical properties, "reflecting the way oil refiners formulate gasoline." Because "oil refiners of ordinary skill in the art change the chemical properties of gasoline by varying the proportions of different petroleum stocks, . . . the claims which define the invention in terms of various characteristics [T50, RVP, etc.] also inform those of skill in the art of the composition of the claimed gasoline fuels." Pet. App. 3a.

In November 1991, nearly a year after the patent application was filed, the California Air Resources Board (CARB), a state regulatory agency, announced new regulations specifying certain properties to be required of gasolines sold in California for use in automobiles. In arriving at its regulations, CARB had not conducted studies of its own, but relied on the industry to provide the needed research and resulting knowledge. Ct. App. JA 5108-18. As of March 1990 –

Unocal's invention date – CARB had decided to regulate only RVP, benzene, and detergent content. *Id.* at 5119-29. By the time of the December 1990 patent application, CARB was unaware of any study examining all the variables studied by Unocal. *Id.* at 5133-34. In June 1991, CARB officials met with Drs. Jessup and Croudace, who disclosed their research data and urged CARB to fashion their regulations in a way that allowed refiners flexibility in how to reach the desired results. *Id.* at 5145-49. A few months after the November 1991 release of the CARB regulations, Unocal brought the regulations to the attention of the PTO examiner and asked her to compare them with the pending application. *Id.* at 5064-68, 5776-82. Only thereafter was the patent granted.

The CARB regulations did not apply to gasoline sales until early 1996. Pet. 5. During the intervening two-year period after the '393 patent issued in February 1994, CARB made no alteration to its requirements to try to minimize or eliminate refiners' likelihood of infringing the '393 patent by complying with the regulations. Nor did CARB seek to pay for the invention of cleaner fuels that helped the state agency fulfill its mission of securing widespread environmental benefits for the public by reducing pollution from the millions of cars in California.

**B. District Court Proceedings**

Petitioners sued Unocal for a declaratory judgment of patent invalidity in April 1995, and Unocal counterclaimed for infringement. (In the absence of an enforcement threat by Unocal, the declaratory-judgment claim was improper, so it was "effectively convert[ed]" into a defense to Unocal's infringement claim. Pet. App. 7a.) Before trial, the district court (now-

Circuit Judge Kim McLane Wardlaw) construed the claims at issue. The court held, in particular, that the common preamble phrase (which, it is now undisputed, constitutes a limitation on the patent claims) requires a standard automotive gasoline, not aviation or specialty racing fuels. Pet. App. 32a-47a.

Trial was then had to a jury as to the factual issues underlying the determination of the patent's validity. Specifically, as relevant here, the jury tried whether certain gasoline compositions in the art prior to the 1990 invention date matched the claimed gasoline compositions and thus rendered the claimed compositions not novel ("anticipated"), 35 U.S.C. § 102, and whether the claims were sufficiently supported by the original application (the specification, plus the original claims) to show that the inventors were in possession of the claimed gasoline compositions at that time, thereby satisfying the "written description" requirement under 35 U.S.C. § 112, ¶ 1. After 49 days of trial, the jury deliberated for 13 days and, in answering 223 special-verdict questions, held that Unocal's patent was valid, rejecting petitioners' anticipation and written-description challenges. Pet. App. 7a-8a. The California citizen jury also found infringement and, upon hearing damages evidence, found a royalty rate of 5.75 cents per gallon to be appropriate and awarded $69 million (plus interest) in damages for the period ending July 1996. Pet. 5.

The district court denied petitioners' post-trial motions on the validity issues. Pet. App. 48a-56a. In addition, the district court separately tried, and rejected, petitioners' contention that Unocal committed inequitable conduct in prosecuting the application before the PTO. 34 F. Supp. 2d 1208, 1222; *see* Pet. App. 8a. The district court also awarded Unocal attorney

fees under 35 U.S.C. § 285, citing "the manner and method by which [petitioners] asserted, litigated and ultimately abandoned [certain] claims," including equitable estoppel and assertions that Unocal "derived" its invention from CARB and sandbagged the Auto/Oil group working toward the regulations, as well as the "personal and destructive nature" of petitioners' litigation allegations, "vexatious conduct" and the "unsupported" nature of several contentions. 34 F. Supp. 2d 1222, 1224 -25.

### C. The Court of Appeals Decision

On appeal, petitioners presented three contentions: *first*, that the patent claims had been improperly construed so as to embrace only standard automotive gasolines (the basis for finding novelty), Ct. App. Corrected Brief for Defendants-Appellants at 15-35; *second*, that the issued claims were "unsupported by the original application" and thus flunked the ordinary standards of the written-description requirement, *id.* at 36-49; *third*, that there was inequitable conduct before the PTO, *id.* at 50-66. Although petitioners presented the regulatory context for atmospherics, they made no contention that the CARB regulations trumped, or required bending of, the ordinary principles of patent validity, including the adequate-support standards of the written-description requirement. The court of appeals rejected all three of petitioners' contentions and affirmed the district court. Pet. App. 1a-24a.

The court first affirmed the district court's construction of the patent claims' preamble language, read in the context of the entire patent (including its description of the problem being solved), as embracing only standard automotive fuels. Pet.

App. 9a-12a. That construction settled the anticipation issue, as the jury found. Petitioners, to show anticipation (lack of novelty under Section 102), had identified only certain aviation and racing gasolines as prior art supposedly containing all the limitations of the patent claims. The court of appeals readily noted petitioners' own evidence and admissions that such fuels were not the same chemical compositions as standard automotive fuels. Pet. App. 12a.[1]

The court of appeals next concluded that the jury could reasonably find that Unocal's patent application, including the written description and original claims, contained adequate information to support the claims as issued. Pet. App. 13a-22a. The court recited that an inventor's application must "'allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed,'" *i.e.*, the inventor must have "conveyed with reasonable clarity to those of skill in the art that he was in possession of the subject matter of the claims." Pet. App. 13a. Applying those standards, the court noted that, in

---

[1] Racing gasoline, in particular, requires very high octane levels, necessitating use of pure compounds produced in chemical plants. Ct. App. JA 5005-07, 5189-96, 5186, 5293-95, 5208A-5208B. Petitioners' experts acknowledged that the compositions of racing gasoline and motor gasoline (the latter the term for standard gasoline) are very different. *Id.* at 5314, 5361-67, 5371. A letter from petitioner Chevron's in-house gasoline expert told state authorities that "racing gasoline . . . is not considered motor gasoline." *Id.* at 6070. A PTO submission by petitioner Atlantic Richfield notes that "motor vehicle gasoline . . . is thus not a highly purified chemical, nor mix of highly purified petrochemicals." *Id.* at 6024.

this particular art, it simply was not necessary for the molecular, chemical makeup of the compositions to be identified for those skilled in the art to see that the inventors possessed particular compositions, because the refiners' art allowed such identification by T50, RVP, and other properties, with teachings about the direction of adjustment of these properties to produce particular compositions:

> The patent unmistakably informs skilled refiners to increase or decrease the various components to arrive at preferred combinations. In fact, the written description usually labels both preferred and most preferred levels within each range. Skilled refiners testified that they knew the composition of the claimed combinations based on this written description. . . . In sum, the record shows that the inventors possessed the claimed invention at the time of filing in the assessment of those of ordinary skill in the petroleum refining art.

Pet. App. 18a (footnote omitted). Stressing that "written description questions are intensely factual," the Federal Circuit carefully reviewed and distinguished *In re Ruschig*, 379 F.2d 990 (CCPA 1967), on that and other grounds (citing *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985)). Pet. App. 21a-22a. Whereas *Ruschig* had found inadequate support for a claim to a single compound copied from another's patent in the applicant's disclosure of a broad class of compounds in the pharmaceutical field, the present patent does not claim a single compound and the relevant prior art is different: "Artisans skilled in petroleum refining, in contrast, are aware of the properties of raw petroleum sources and know how to mix streams of such sources to achieve a final product with desired characteristics." Pet. App. 21a. In this

field, teaching the desired combination of characteristics defined the compositions to those of skill in the art. *Id.* Accordingly, there was substantial evidence to support the jury's finding of adequate support.[2]

Judge Lourie dissented on the application of the written-description requirement in this case. Pet. App. 24a-31a. He noted that the requirement was inevitably case-specific (*id.* at 26a), and he did not disagree with the above-quoted standards for satisfaction of the requirement. He merely disagreed with the majority in its holding that a jury could reasonably find adequate support for the claims in the disclosure of the '393 patent, including its description of the directions in which the T50, RVP, and other properties could be adjusted to arrive at the targeted reductions of harmful emissions. *Id.* at 24a-31a. Judge Lourie did not cite any regulation-based ground for his conclusion.

Petitioners sought both panel and *en banc* rehearings. Both requests were denied. Neither Judge Lourie nor any other judge on the Federal Circuit voted for rehearing. Pet. App. 57a.

## REASONS FOR DENYING THE PETITION

Petitioners have presented no question meriting this Court's review. The Federal Circuit's decision does not announce any principle of law in conflict with any decision of this Court, of

---

[2] The court also rejected petitioners' inequitable-conduct contention (Pet. App.22a-23a), which they do not renew in this Court.

another court of appeals, or of the Federal Circuit itself (or its predecessor courts) – as indicated by the failure of any judge, including the dissenting member of the panel, to vote for en banc review. Presenting pure (non-constitutional) patent-law issues within the special expertise of the Federal Circuit, this case involves no disputed general propositions of patent law, let alone fundamental ones, and still less any issues that have generated a persisting cacophony of views within the Federal Circuit. The decision below addresses a highly fact-specific application of uncontested legal principles to one particular set of patent claims and disclosures. Even in dissenting on the written-description issue, Judge Lourie himself made clear the case-specific nature of the dispute. Pet. App. 26a, 30a. On both the written-description and claim-construction issues, moreover, the Federal Circuit's application of settled principles in this case was correct.

In their effort to justify review, petitioners pervasively stress the similarity of the patent to California-law regulatory requirements for less polluting gasoline. But petitioners simply cannot transform that general theme into a properly preserved and certworthy legal question, most obviously because no version of the contention that state-law regulatory requirements somehow dominate patent rights was either presented to or decided by the Federal Circuit. Without any general legal ruling for this Court to review, the fact that the patent at issue has significant commercial value (commensurate with the

environmental benefits it confers) is not a ground for review.[3] The petition accordingly should be denied.

---

[3] The only thing presently known about the commercial value of the patent is the damage award for the tried period of infringement with no efforts made in that period to blend gasolines that might be outside the patent. Even a larger award – based on 29% of the summer gasoline sold infringing, and a royalty of 7 cents a gallon – works out to less than $11 per year for an individual driving 15,000 miles per year and getting 18 miles per gallon. Ct. App. JA5375-80.

Petitioners have little other basis for touting the cost import of the patent. A single sentence in recent congressional testimony by the FTC Chairman about the potential causes of the recent rise in gasoline prices in the Midwest (quoted at Pet. 9-10), amid lengthy discussions of numerous factors, says that the patent's validity "'*may* have caused'" some refiners to attempt to design gasolines outside the patent and thus delayed or reduced some refinery output. (Emphasis added.) In contrast, the Congressional Research Service recently concluded that "any license fee owed to Unocal once the license fee is ultimately determined would be too small to create a barrier to making [reformulated gasoline]." June 16, 2000 Congressional Research Service Memorandum, p. CRS-2. Unocal has openly offered to license the patent to all refiners, blenders and importers of gasoline since April of 1995. 34 F. Supp. 2d at 1224.

### A. The Lower Courts' Upholding of the Jury's Finding of Adequate Written Description Does Not Merit Review

Though petitioners have written a single complex question mentioning the written-description requirement, the awkward drafting of the question itself betrays the distinct nature of the issues it presents. Petitioners' central contention is that the patent claims' resemblance to state-law regulatory requirements should erase Unocal's patent rights even if the patent claims meet all other requirements, including the normal standards for adequate support in the original disclosure. Pet. 11-16. That contention is wholly different from, and cannot fairly be shoehorned into, the issue whether the disclosures in the original patent application were sufficient to show that the inventors were in possession of the inventions set forth in the claims of the patent as later issued.

Petitioners strain to merge the issues for the simple reason that their regulatory-trumping, regulatory-gaming contention was not raised in the Federal Circuit. This Court has repeatedly rejected efforts to raise issues not presented or decided below. *Davis v. United States*, 495 U.S. 472, 489 (1990); *Schall v. Martin*, 467 U.S. 253, 261 n.11 (1984). As previously noted, petitioners did not argue that CARB requirements defeated otherwise-valid patent rights in the court of appeals, whether as an independent legal limit on patent rights or, illogically, as an additional new test for satisfaction of the written-description requirement (which has nothing to do with regulation). Petitioners did attempt some form of regulatory-gaming argument *in the district court*, through "equitable estoppel" and "derivation" contentions, but they were charged with attorney fees for pressing those unsupported contentions, and they did

not pursue any such contention in the court of appeals.[4] Not surprisingly, then, there is no Federal Circuit ruling on any issue of regulatory trumping for this Court to review. Petitioners' failure to raise the issue and the absence of any court of appeals pronouncement to review are doubly sufficient to deny review of petitioners'contention.

The regulatory-trump contention in this case also plainly lacks merit. It finds no support in written-description precedent because such regulatory concerns have nothing to do with that requirement, which simply demands that claims added by amendment in the PTO have adequate support in the application as filed (so as to be entitled to the filing date of that application for purposes of determining what is "prior" art). And the notion of a free-standing limit on otherwise-valid patent rights – for which petitioners latch onto the Second Circuit's recent decision in *SmithKline Beecham Consumer Healthcare, L.P. v. Watson Pharmaceuticals, Inc.*, 211 F.3d 21 (2d Cir. 2000), petition for cert. filed (June 3, 2000) (No. 00-19) – has no application here. *SmithKline* held that one federal statute (the generic-drug-encouraging amendments to the Food

---

[4] We note that petitioners did not object to the following legally correct jury instruction: "It is not improper to amend or insert claims into a patent after the application has been filed, even if those claims are intended to cover a competitor's product about which the applicant learned during the prosecution of the application, provided that the amended or inserted claims are supported by the written description in the original patent specification." Court's Instruction No. 27, JA6198; *see Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988).

Drug & Cosmetics Act) limited certain (not very central) rights under another federal statute (the Copyright Act), reaching such a conclusion out of necessity because there was a "conflict between two statutes" at the federal level. *Id.* at 27. The premise for undertaking the effort to resolve that statutory conflict, however, simply does not exist in this case, which involves no conflict of the federal patent law with any other federal statute at all. California regulations cannot trump federal patent rights, and nothing in the Federal Circuit's decision repudiates the Second Circuit's general analysis in *SmithKline* where a statutory conflict does exist. Indeed, *SmithKline* relied on the Federal Circuit's decision in *Zenith Elecs. Corp. v. Exzec., Inc.*, 182 F.3d 1340, 1347 (Fed. Cir. 1999), for that analysis. *SmithKline,* 211 F.3d at 28.

With no basis to support review of their regulation-based contention, petitioners have nothing left but a brief argument that the panel mistakenly concluded that the jury could reasonably find ordinary written-description requirements satisfied. Pet. 16-18. This argument, the one petitioners did present to the Federal Circuit, raises no issue warranting this Court's review. All three judges recognized the fact-specific nature of the inquiry. There was no dispute about the general standards, only how they should be applied here. And the Federal Circuit amply explained why the jury in this case could reasonably find the extensive disclosure of the '393 application adequate to support the issued claims, judged from the necessary perspective of skilled refiners. Pet. App. 13a-22a.

Petitioners, challenging this holding, do not press the particular point emphasized by Judge Lourie: that the original disclosure should have described each specific combination of each issued claim's limitations. Instead, petitioners, citing the

'393 application's disclosure of a large number of possible compositions (based on varying the T50, RVP, and other properties), suggest that the 1967 decision of the Court of Customs and Patent Appeals in *In re Ruschig* forbids basing any narrower claims on disclosure of such a large number of combinations. This claim, aside from being insufficient on its face to justify review, is wrong. As the court of appeals explained, (Pet. App. 18a-19a), the nature of the particular art and the claims at issue determines whether or not a particular case involves a forbidden needle-in-a-haystack situation, like *Ruschig* – a pharmaceutical case involving a disclosure of a broad class of compounds and an ultimately claimed single but wholly undisclosed specific compound. Here, unlike *Ruschig*, the resulting claims are themselves broad ranges, and the disclosures' explanation of the directions of effects from changing variables readily identified each of the ultimately claimed combinations. (Hence, there was possession of the resulting claims at the time of the application.) The difference in facts explains and justifies the difference in result.[5]

---

[5] Although petitioners twice assert that the final T10 ranges and aromatics limits were broadened from the original disclosure (Pet. 7, 18), that is plainly wrong: original claim 1 imposed no limitation on T10 or aromatics at all. *See* Pet. App. 58a. Consequently, the claims were actually narrowed. The assertion is also irrelevant, as the only issue is whether the final claims had support in the original disclosure, which does not turn on narrowing or broadening alone. Nor is it relevant whether the '393 application disclosed a "trillion" different compositions (by varying the properties in different combinations). The disclosure, by teaching the direction of

(continued...)

## B. The Lower Courts' Claim Construction Does Not Merit Review

The Federal Circuit, in agreement with the district court, construed the patent claims – particularly, the preamble language that petitioners agree serves as a claim limitation – to require a "standard automotive fuel *composition*." Pet. App. 12a (emphasis added); Pet. App. 34a-44a. That construction is intrinsically case-specific. And it properly reflects the application of established principles of claim construction.

This Court has recently confirmed the importance, in construing patent claims as in construing statutes and documents, of interpreting the claim terms so they comport "with [the] patent's internal logic," based on a "necessarily sophisticated analysis of the whole document, required by the standard construction rule that a term can be defined only in a way that comports with the instrument as a whole." *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996); *id.* at 390 (claims must be construed "in relation to the overall structure of the patent"; construction must "fully comport[] with the specification and claims and so will preserve the patent's internal coherence"). The Federal Circuit relied on the internal evidence of the patent in just that way. Pet. App. 10a-12a.

"An unleaded gasoline suitable for combustion in an automotive engine" is properly understood not to refer to

---

[5] (...continued)
alteration of the combination of identified variables, adequately supported all the compositions – specifically, the claimed compositions – as the testimony and evidence amply proved.

aviation gasolines or exorbitantly priced specialized high-purity gasolines made for specialized racing cars, even though such gasolines "*could be burned*" in a regular car (Pet. App. 41a). Rather, the invention targets and the preamble refers to gasolines designed for regular use at expected prices in the typical automobile driven by the millions of drivers who cause pollution. The patent pervasively confirms that narrower focus: for example, the language "automotive engine" points away from aviation fuels; the language "unleaded gasoline" in normal usage "invokes standard automotive fuels, rather than specialized fuels"; the patent's description of "the problem that the[] invention addressed" refers to pollution not from a few racing cars but from the millions of standard automobiles; and the patent's description of the testing that led to the invention refers entirely to "ordinary passenger automobiles." Pet. App. 11a-12a. The language at issue thus bears the meaning discerned and, in context, must take that meaning. *See General Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 981-82 (Fed. Cir. 1997) (construing term based on problem invention designed to solve); *Applied Materials, Inc. v. Advanced Semiconductor Materials*, 98 F.3d 1563, 1572-73 (Fed. Cir. 1996) (same).

Petitioners accuse the lower courts of adding a limitation to the claims, citing *McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895). Pet. 20, 22. The courts below, however, did not announce any principle allowing such addition or purport to approve such an addition; to the contrary, the Federal Circuit has expressly followed the rule against adding claim limitations. *See Northern Telecom Limited v. Samsung Electronics Co.*, 215 F.3d 1281, 1290-91 (Fed. Cir. 2000) ("This court has repeatedly and clearly held that it will not read unstated limitations into claim language."); *Markman v. Westview*

*Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir.1995) (en banc), *aff'd*, 517 U.S. 370 (1996); *E.I. DuPont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433-34 (Fed. Cir. 1988); *Renishaw PLC v. Marposs Societa' per Azioni,* 158 F.3d 1243, 1248 (Fed. Cir.1998). In this case, the district court and Federal Circuit both reached their interpretation by the straightforward construction of claim terms undisputedly present, namely, the preamble language. Petitioners' accusation is nothing more than a disagreement with the courts' construction of the key preamble phrases.

Petitioners also accuse the lower courts of violating the principle of *General Elec. Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 249 (1945), that an old composition cannot be patented based on a new use of the composition (though the new use may be patentable as a method). Pet. 20, 23-24. But the court of appeals could not have been clearer that what was claimed here were certain "compositions" (Pet. App. 10a, 12a) and that these compositions were, in fact, *not* found in the prior art cited by petitioners (Pet. App. 12a). The standard automotive gasolines claimed by this patent were, by petitioners' own evidence, *not* the same compositions as either the aviation or racing fuels that petitioners identified as their sole prior art. Pet. App. 12a. This case thus involves new compositions, not old compositions, and *Jewel Incandescent* is simply inapposite.

Petitioners' complaint, ultimately, is nothing more than that the claimed standard automotive gasoline was never given a chemical-composition *definition*. But lack of such a definition is immaterial to petitioners' legal point based on *Jewel Incandescent*: the fact remains that the patent here claims new, not old, compositions. And such a specific molecular

definition, in this case, would have been superfluous. It was undisputed, and confirmed by petitioners' own evidence, that standard automotive gasoline is a different composition from the relied-on aviation and racing fuels. The fact of the difference was determinative of the novelty issue, without need for further definition of the molecular-makeup specifics of the difference.

## CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted,

MARTIN R. LUECK,
DAVID W. BEEHLER
DIANE L. SIMERSON

ROBINS, KAPLAN, MILLER &
CIRESI L.L.P.
2800 LaSalle Plaza
800 LaSalle Avenue
Minneapolis, MN 55402-2015
(612) 349-8500

and,

RICHARD G. TARANTO

FARR & TARANTO
1850 M Street, N.W.
Suite 1000
Washington, D.C. 20036
(202) 775-0184

ATTORNEYS FOR RESPONDENT
UNION OIL COMPANY OF
CALIFORNIA

September 14, 2000

SEP 14 2000

No. 00-00-249

IN THE

# Supreme Court of the United States

OCTOBER TERM, 2000

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.,

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA,

*Respondent.*

**On Petition for a Writ of *Certiorari* to the United States Court of Appeals for the Federal Circuit**

## MOTION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF AND BRIEF OF *AMICUS CURIAE* GENERAL MOTORS CORPORATION IN SUPPORT OF PETITION FOR *CERTIORARI*

FREDERICK A. FROMM, JR.
DAVID W. SCHRUMPF
GEORGE A. GROVE
General Motors Corporation
300 Renaissance Center
P.O. Box 3000
Detroit, MI 48265-3000
(313) 665-4879

EDWARD W. WARREN
*Counsel of Record*
STUART A.C. DRAKE
GRANTA Y. NAKAYAMA
JEFFREY BOSSERT CLARK
Kirkland & Ellis
655 Fifteenth Street
Washington, D.C. 20005
(202) 879-5000

*Counsel for General Motors Corporation*

September 14, 2000

CORRECTED COPY

## DISCLOSURE STATEMENT

Pursuant to Supreme Court Rules 24.1(b) and 29.6, General Motors Corporation hereby declares that it has no parent corporations. No publicly held company owns more than 10% of the stock of General Motors Corporation.

## TABLE OF CONTENTS

Page

DISCLOSURE STATEMENT ..... ii

TABLE OF CONTENTS ..... iii

TABLE OF AUTHORITIES ..... iv

MOTION FOR LEAVE TO FILE A BRIEF *AMICUS CURIAE* ..... 1

IDENTITY AND INTERESTS OF *AMICUS CURIAE* ... 2

BRIEF *AMICUS CURIAE* ..... 5

INTRODUCTION AND SUMMARY OF ARGUMENT . 5

ARGUMENT ..... 6

I. This Case Is Exceptionally Important to National Environmental Policy and the Economy ..... 6

A. The Loss of Proper Gasoline Volatility Controls ..... 7

B. The Economic Impact of the '393 Patent ..... 11

II. Patent Applicants Should Not Be Permitted Merely to Anticipate Regulatory Requirements, Nor to Adapt Such Opportunistic Patents to Final Regulatory Requirements Through the Process of Amendment. ..... 13

III. The Lower Courts Here Should Never Have Validated a Patent Resting Purely on Preexisting Innovations, and Did So Only by Ignoring This Court's Clear Precedent. ..... 18

CONCLUSION ..... 19

## TABLE OF AUTHORITIES

### CASES

*Ansonia Brass & Copper Co. v. Elec. Supply Co.*,
144 U.S. 11 (1892) ..... 19
*Eli Lilly and Co. v. Medtronic, Inc.*,
496 U.S. 661 (1990) ..... 16
*Geier v. American Honda Motor Co.*,
120 S. Ct. 1913 (2000) ..... 2
*General Electric Co. v. Jewel Incandescent Lamp Co.*,
326 U.S. 242 (1945) ..... 19
*General Motors Corp. v. Toyota Motor Corp.*,
667 F.2d 504 (6th Cir. 1981), *cert. denied*, 456 U.S.
937 (1982) ..... 13
*McCarty v. Lehigh Valley R. Co.*,
160 U.S. 110 (1895) ..... 19
*Medtronic, Inc. v. Lohr*,
518 U.S. 470 (1996) ..... 2
*Pope Mfg. Co. v. Gormully*,
144 U.S. 224 (1892) ..... 16
*Smith v. Nichols*,
88 U.S. (21 Wall.) 112 (1874) ..... 19

### CONSTITUTIONS AND STATUTES

U.S. Const. art. I, sec. 8, cl. 8 ..... 14, 16
35 U.S.C. § 101 ..... 16
35 U.S.C. § 112 ..... 17
42 U.S.C. §§ 7511-7511a ..... 10
42 U.S.C. § 7521 Table G ..... 13

### REGULATORY MATERIAL

62 Fed. Reg. 68,196 (Dec. 31, 1997) ..... 11

## CONGRESSIONAL HEARINGS

Senate Agriculture Committee Hearings on Energy Cost and Agriculture, 2000 WL 23831729 (July 20, 2000) (statement of James McCarthy, General Manager, CITGO Petroleum Corporation) ..... 3

Senate Energy and Natural Resources Committee Hearings on Gasoline Supply Problems, 2000 WL 23831565 (July 13, 2000) (statement of Red Cavaney, President and CEO, American Petroleum Institute) ..... 11-12

House Judiciary Committee Hearings on Competitive Problems in the Oil Industry, 2000 WL 23831097 (June 28, 2000) (statement of Chairman Henry J. Hyde) 12

## MISCELLANEOUS

Alexei Barrionuevo, *Majors Battle Unocal over Clean Gasoline Patent*, HOUSTON CHRON., Aug. 27, 2000 12

California Air Resources Board, EMFAC 2000 Emission Inventory Model Version 1.99 (May 2000) ..... 10

*California Southland Focus: Unocal to Seek More Damages in Patent Suit*, L.A. Times, Aug. 17, 2000 ..... 12

*Clean Air, Empty Pockets*, THE WASH. TIMES, Sept. 10, 2000 ..... 12

Congressional Research Service, *RL30592: Midwest Gasoline Prices: A Review of Market Developments* (June 28, 2000), *available at* <http://www.cnie.org/nle/eng-62.html#PatentedRFG> ..... 12-13

Frank Dabbs, *Bottom Lines*, OILWEEK, July 3, 2000 .... 12

J. C. Ellis, *Future Automotive Fuels*, SAE Technical Paper Series No. 720617 (1971) ..... 8,9

*Finding Relief for Motorists the Issue*, DENVER ROCKY MOUNTAIN NEWS, July 3, 2000 ..... 12

*GM Bids for Radically New Gasoline*, OIL AND GAS J. (Jan. 1, 1972) ..... 15

*GM Still Wants Costly Light Gasoline*, OIL AND GAS J. (Oct. 2, 1972) ..... 15

*Gasoline Price Spikes Spark US Political Firestorm*, OIL AND GAS J., July 10, 2000 ..... 12

Tom Hamburger, *Ciresi Case Examined in Gasoline Price Increases: Oil Company Patent Case May Have Had Role, Some Say*, STAR-TRIBUNE, July 6, 2000 ... 12

*High Crude Prices, Patent Victory Push Unocal to Record Earnings in Second Quarter*, A.P. NEWSWIRES, July 27, 2000 ..... 11

John B. Heywood, INTERNAL COMBUSTION ENGINES: FUNDAMENTALS (1988) ..... 7

Kenji Kanehara et. al., *Analyzing the Influence of Gasoline Characteristics on Transient Engine Performance*, SAE Technical Paper Series No. 912392 (1991) ..... 9

*Midwest Gasoline Prices*, Presented by FTC Chairman Robert Pitofsky, Before the Committee on Commerce, U.S. House of Representatives (June 28, 2000), *available at* <www.ftc.gov/OS/2000/06/gasolinecommerce.htm> ..... 12

MOTOR VEHICLE FACTS AND FIGURES (Ward's Communications 1999) ..... 10

Christopher Palmeri, et al., *Who's to Blame? OPEC? Refiners? Speculators? Regulators? Yes, Yes, Yes, and Yes*, BUSINESS WEEK, July 3, 2000 ..... 12

*Patent Case Could Threaten Enviro Compliance*, 10 AMERICAN POLITICAL NETWORK GREENWIRE, No. 9 ..... 12

D. A. Patterson and N. A. Henien, EMISSIONS FROM COMBUSTION ENGINES AND THEIR CONTROL (1972) 8

U.S. Environmental Protection Agency, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990 .... 6

U.S. Environmental Protection Agency, Office of Mobile Sources, Fact Sheet OMS-12: Milestones in Auto Emissions Control (Aug. 1994) ..... 6

U.S. Environmental Protection Agency, NATIONAL AIR POLLUTION TRENDS, 1900-1996, App. B ..... 11

No. 00-00-249

IN THE

# Supreme Court of the United States

OCTOBER TERM, 2000

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.,

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA,

*Respondent.*

**On Petition for a Writ of *Certiorari* to the United States Court of Appeals for the Federal Circuit**

## MOTION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF BY GENERAL MOTORS CORPORATION IN SUPPORT OF PETITION FOR *CERTIORARI*

Pursuant to Supreme Court Rule 37.2(b), General Motors Corporation ("General Motors" or "GM") respectfully requests leave of the Court to file this brief *amicus curiae* in support of Petitioners, Atlantic Richfield Company, et al.[1] Counsel for all Petitioners have consented by letter to the filing of this brief.

[1] Pursuant to Supreme Court Rule 37.6, General Motors states that no counsel representing a party to this case authored this motion or brief in whole or in part and that no person or entity other than General Motors Corporation or its counsel made a monetary contribution to the preparation or submission of this motion or brief.

An original letter of consent will be lodged with this Court. Counsel for Respondent, Union Oil Company of California, has withheld its consent, necessitating this motion.

## IDENTITY AND INTERESTS OF *AMICUS CURIAE*

General Motors is the world's largest automotive manufacturing corporation. GM employs more than 388,000 people and works with over 30,000 supplier companies worldwide.

For the North American market, GM designs, manufactures, and markets vehicles for the Buick, Cadillac, Chevrolet, GMC, Oldsmobile, Pontiac, Saab, and Saturn nameplates. In 1998, GM North America produced approximately 5 million vehicles, had sales and revenues of $94.2 billion, and employed 229,000 people. GM also has substantial interests in digital communications, financial and insurance services, locomotives, and heavy-duty automatic transmissions. GM has more than 260 major subsidiaries, joint ventures, and affiliates around the world.

When its interests are affected or where its participation may prove helpful to this Court, General Motors has regularly filed briefs *amicus curiae*. *See, e.g., Geier v. American Honda Motor Co.*, 120 S. Ct. 1913 (2000); *Medtronic, Inc. v. Lohr*, 518 U.S. 470 (1996).

GM's interests are adversely affected by the enforcement of the patent at issue in this case. The control of motor exhaust emissions today requires a systems approach, in which sophisticated emissions control hardware on the vehicle is combined with the use of "low-emission" gasolines in the engine. Gasoline-powered GM cars and trucks will not provide optimal emissions control performance unless they are operated on those "low emission" fuels, which permit the most efficient possible operation of their engines.

As explained more fully below, the Unocal patent at issue in this case and other Unocal patents derived from this one

cover some of the most important fuel properties needed for optimal control of vehicular emissions. Refiners not owned or operated by Unocal can be expected to act in an economically rational manner. Faced with the prospect of paying royalties to Unocal under the patent contested here, the refiners will predictably choose to produce fuel blends that are not optimal for modern vehicles, since that choice will be cheaper – even though making that choice will impose large social costs in terms of increased vehicle emissions.[2]

The consequences of refiners acting in the economically rational manner will be disbeneficial for GM and the motoring public. If the cleanest possible gasolines are not plentifully available, GM and other vehicle manufacturers will face increased pressure to try to reduce emissions further with additional emissions-control hardware on the vehicle. That additional hardware, in turn, will increase the costs of new vehicles and complicate GM's efforts to build simple and durable emissions-control systems.

General Motors' participation in this case will also bring to the Court's attention matters that might otherwise go unnoticed. GM is a leader not only in the production of new motor vehicles but also in research on motor vehicle fuels. GM participated in the same environmental regulatory processes that gave rise to the "low-emission" gasoline rules whose implementation has been stymied by the Unocal patent. GM's *amicus curiae* brief explains why, using peer-reviewed scientific and automotive engineering literature, this case has exceptional importance to the nation's efforts to reduce automotive emissions and achieve improved air quality.

---

[2] *See* Senate Agriculture Committee Hearings on Energy Cost and Agriculture, 2000 WL 23831729 (July 20, 2000) (statement of James McCarthy, General Manager, CITGO Petroleum Corporation) ("CITGO's Lake Charles Refinery has the ability to produce about 15,000 barrels per day of summer grade RFG, but to avoid the patent issue, we have cut production to about 4,000 barrels per day.").

Based on the foregoing, General Motors hereby moves to file the following brief *amicus curiae* in support of Petitioners in this case.

Dated: September 14, 2000

Respectfully submitted,

FREDERICK A. FROMM, JR.
DAVID W. SCHRUMPF
GEORGE A. GROVE
General Motors Corporation
300 Renaissance Center
P.O. Box 3000
Detroit, MI 48265-3000
(313) 665-4879

EDWARD W. WARREN
*Counsel of Record*
STUART A.C. DRAKE
GRANTA Y. NAKAYAMA
JEFFREY BOSSERT CLARK
Kirkland & Ellis
655 Fifteenth Street
Washington, D.C. 20005
(202) 879-5000

*Counsel for General Motors Corporation*

## INTRODUCTION AND SUMMARY OF ARGUMENT

This is a highly significant case, with far-reaching patent-law ramifications, as well as for the nation's efforts to improve air quality. In this case, two judges comprising the majority of a Federal Circuit panel blessed a naked attempt by a refiner to hijack a series of environmental regulations for its own benefit. The results are (1) a significant reduction in the environmental benefits that could otherwise have been achieved by the pertinent regulations, (2) the imposition of millions of dollars of unnecessary cost on the national economy, (3) increases the prices of gasoline, (4) gasoline supply shortages, and (5) the perversion of the proper functioning of the patent laws.

The Court should not countenance those results. It should grant review because two fundamental legal errors were made in this case.

*First*, the Federal Circuit entirely ignored the regulatory context in which Unocal sought and obtained this patent, turning a blind eye to Unocal's effort to hijack the regulatory process for private gain – a move that resulted here in no invention enriching society and which, as a result, runs afoul of numerous patent-law doctrines. The patent laws of this country were not intended to permit one company falsely to claim "invention" of basic, long-understood relationships between the chemical composition of gasolines and the efficient operation of the motor vehicle engines in which those fuels are used.

*Second*, the Federal Circuit upheld the validity of Unocal's patent despite the fact that it was wholly anticipated by high-performance automotive gasolines that were well-known in the refining industry and used in such prominent applications as automotive endurance and racing trials. The Federal Circuit shook two important pillars of patent law. It effectively inserted new text into the claims actually made by Unocal. And it condoned the grant of a new patent for what amounted to a self-evident new use for an old product.

## ARGUMENT

### I. This Case Is Exceptionally Important to National Environmental Policy and the Economy.

Each year, the nation spends tens of billions of dollars to control emissions from the sources of urban air pollution.[3] A major portion of that investment in cleaner air has been made in the technologies needed to reduce emissions from motor vehicles. Under the test conditions specified by EPA, a typical new car sold in America is the cleanest in the world, and produces tailpipe emissions of hydrocarbons that are less than five percent of similar emissions from new cars sold in the 1960s, prior to emission controls.[4]

Most of the emissions reductions that have been achieved in automobiles have been the result of the improved vehicle hardware, starting with catalytic converters, coupled with the various sophisticated computer controls used on modern engines. Much more recently, EPA and the State of California have begun to require gasoline refiners to produce "clean" gasolines that help cars and trucks to control emissions not only under laboratory conditions, but also in ordinary use on the road under everyday driving conditions.

As indicated by Petitioners, the '393 patent will greatly increase the cost of gasoline in California, in part by making it more expensive for refineries to meet California's requirements. *See* Pet. at 9-11. There is, however, much more at stake for the rest of the nation if the Unocal patent is enforced.

Efforts by the oil industry to blend gasolines that avoid Unocal's royalties can be predicted to increase the level of

---

[3] U.S. Environmental Protection Agency, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990, at ES-2 (Oct. 1997).

[4] U.S. Environmental Protection Agency, Office of Mobile Sources, Fact Sheet OMS-12: Milestones in Auto Emissions Control (Aug. 1994).

automotive air pollution in some of America's largest urban centers. This will frustrate the intent of more stringent motor vehicle emissions standards set by the government, and squander the public's investment in cleaner vehicle technologies.

### A. The Loss of Proper Gasoline Volatility Controls

Some background on the interaction between gasoline and the modern internal combustion engine is necessary in order to appreciate the adverse environmental effects of the '393 patent on automotive emissions control.

Gasoline is composed of hundreds of different chemical compounds, which are refined for use in spark-ignited automotive engines. The "volatility" of gasoline – which is its propensity to change from a liquid to a vapor state – is critical to the proper operation of an internal combustion engine.

Strictly speaking, a gasoline engine does not operate on liquid gasoline – it depends upon the combustion of gasoline *vapor* and oxygen to release the energy in the gasoline tank and propel the vehicle down the road.[5] Gasoline must be vaporized to the greatest possible degree in order to burn properly and completely in the combustion chamber for maximum efficiency, and to obtain the lowest emissions of unburned fuel and the best engine performance.

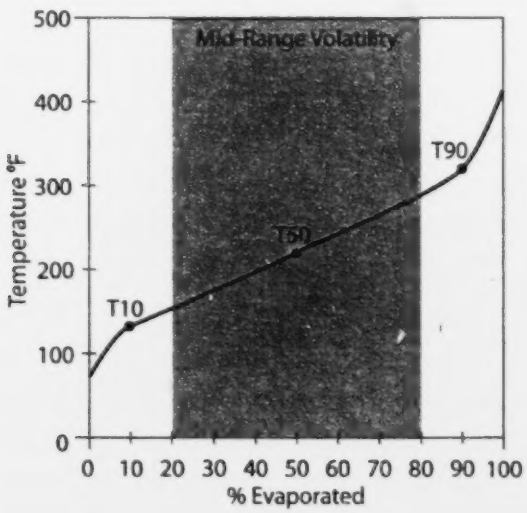
If the specific quantity of gasoline injected into the combustion chamber fails to vaporize completely, unstable combustion will result. This often causes engine misfire, roughness in engine operation potentially leading to stalling, and substantial increases in unburned-fuel hydrocarbon emissions. Even the best gasoline engines are especially sensitive to misfire and increased hydrocarbon emissions – especially during engine warm-up where sufficient engine heat

---

[5] John B. Heywood, INTERNAL COMBUSTION ENGINES: FUNDAMENTALS 4 (1988).

is not available to help in vaporizing the gasoline, and the catalytic converter has not yet reached operating temperature.[6] The use of gasolines with optimal volatility characteristics is therefore particularly central to clean engine operation.

Gasoline volatility is measured in a number of different ways. A common method of representing gasoline volatility is called the distillation curve, which tracks the temperature at which a specific percentage of the gasoline moves from the liquid to the vapor state. A typical distillation curve for gasoline is shown on Figure 1 below.[7] On Figure 1, the *y*-axis shows the temperature to which a given sample of gasoline is heated; the *x*-axis shows the percentage of gasoline evaporated as the gasoline is heated. The three dots along the distillation curve indicate three points at which volatility is routinely measured: the "T10" point, indicating the temperature at which 10 percent of the gasoline will vaporize, the "T50" point at which 50 percent will vaporize, and the "T90" point at which




---

[6] *See, e.g.*, J. C. Ellis, *Future Automotive Fuels*, SAE Technical Paper Series No. 720617, 118 (1971).

[7] Adapted from D. A. Patterson and N. A. Henien, EMISSIONS FROM COMBUSTION ENGINES AND THEIR CONTROL 55 (1972).

90 percent will vaporize.

The so-called "mid-range" volatility of gasoline, shown in the shaded area of Figure 1 around the T50 value, is the main area of concern here. The '393 patent applies as a general matter to gasoline blends with a T50 value of less than 215° F. Any blend with a T50 of 215° F or below may come within the scope of the Unocal patent and require royalties. The practical effect of the Unocal patent is thus to create an economic incentive for non-Unocal refiners to blend gasolines with a T50 value above 215° F. That option is entirely within the requirements of EPA regulations, but it nonetheless inevitably increases tailpipe emissions for the reasons explained below.

The peer-reviewed technical literature, which includes data from General Motors and many other research organizations over many years and under a wide variety of engine operating conditions, demonstrates conclusively that gasolines with higher mid-range (T50) volatilities will produce higher emissions under normal operating conditions. The reason for this is simple. Gasolines with a relatively high T50 value – those needed to avoid the Unocal patent – will be slow to vaporize, especially during the time before the converter is "warmed up" and able to work efficiently.

If a gasoline has a higher T50 value than covered by the Unocal patent, a significant portion of the hydrocarbon compounds in the gasoline will pass through the engine and the catalytic converter during the initial operation of the engine, and enter the atmosphere.[8] Once in the atmosphere, those hydrocarbons can contribute to the formation of urban ozone or "smog" conditions in the troposphere – a phenomenon of longstanding concern to Congress in the Clean Air Act, and the

---

[8] Kenji Kanehara et. al., *Analyzing the Influence of Gasoline Characteristics on Transient Engine Performance*, SAE Technical Paper Series No. 912392, 7 (1991); J. C. Ellis, *Future Automotive Fuels*, SAE Technical Paper Series No. 720617, 118 (1971).

target of huge national expenditures.[9]

One theoretical solution to the problem of gasolines with excessive T50 values might be to require vehicles to pass tailpipe hydrocarbon emissions tests when operated on these higher volatility fuels. That result would be perverse – indeed, the very aim of the EPA regulations that govern in this area would be frustrated by requiring additional regulation and even greater expenditures of public and private resources.

Even that alternative, however, would address only a small part of the problem. For there is essentially no way the government could impose a new tailpipe emissions testing standard on the more than 175 million gasoline-powered cars and light trucks already on the road in the U.S. today.[10] Once a vehicle has been designed and assembled at the factory, and then sold to the public, its basic emissions control properties, as a practical matter, cannot be altered in the field.

For those 175 million vehicles already on the road, most of which will remain in service for more than 10 years,[11] the shift upward in mid-range volatility that is entirely predictable as an economic matter as a result of the Unocal patent will inexorably increase emissions levels. EPA, the States, and the automobile industry cannot take any practical steps related to the hardware already on those vehicles to address the problem created by widespread use of gasolines with poor mid-range volatility properties.

To put the matter in context, consider the impact of a 4 percent increase in hydrocarbon emissions from the fleet of 175

---

[9] *See, e.g.*, 42 U.S.C. §§ 7511-7511a (classification of ozone "nonattainment" areas and measures required to reduce ozone in such areas); note 3 *supra* (cost estimates for national emissions control measures).

[10] MOTOR VEHICLE FACTS AND FIGURES, 37, 39 (Ward's Communications 1999). This number includes all U.S. vehicles outside California.

[11] California Air Resources Board, EMFAC 2000 Emission Inventory Model Version 1.99 (May 2000).

million gasoline-powered light-duty vehicles reported to be in daily use. An increase of that magnitude is expected from an 8.8 percent shift in T50, according to the literature.[12] The national vehicle population (excluding California, which has its own emission regulations) would experience an increase of almost 21,000 tons in hydrocarbon emissions over a typical "ozone season," which in most U. S. cities lasts about 90 days a year, stretching from late spring until late summer.[13] In terms of additional sources of smog-forming emissions, that is the equivalent of placing about nine million additional cars on the road in America's most congested urban areas.

### B. The Economic Impact of the '393 Patent

The vices of Unocal's patent are not limited to its environmental consequences. The District Court's disposition of this case, affirmed by the Federal Circuit, has increased the cost of producing a gallon of gasoline covered by the Unocal patent by 5.75 cents per gallon. Of course, that increased cost to refiners and the higher prices paid by consumers have redounded to Unocal's benefit. *See, e.g., High Crude Prices, Patent Victory Push Unocal to Record Earnings in Second Quarter*, A.P. NEWSWIRES, July 27, 2000. Not surprisingly, this result deserves the considerable attention it has attracted from members of Congress[14] and from the media.[15]

---

[12] An increase of 8.8% in T50 is the average difference between fuels above and below the Unocal limit of 215° F. The EPA's "Complex Model," described in 62 Fed. Reg. 68,196 (Dec. 31, 1997), calculates the emission increase that results from changes in fuel properties.

[13] Increase applied to light-duty vehicle hydrocarbon emission inventory published in U.S. Environmental Protection Agency, NATIONAL AIR POLLUTION TRENDS, 1900-1996, App. B.

[14] In addition to the hearings held by the Senate Agriculture Committee, referred to *supra* note 2, the Senate's Committee on Energy and Natural Resources held hearings (*see, e.g.*, Senate Committee on Energy and Natural Resources Hearings on Gasoline Supply Problems, 2000 WL 23831565 (July 13, 2000) (statement of Red Cavaney, President and CEO, American

(continued...)

Indeed, both the Federal Trade Commission and the Congressional Research Service have concluded that the Unocal patent may be one ingredient in the dramatic increase in retail gasoline prices throughout the Midwest this past summer. According to the FTC, the Federal Circuit's decision

> upholding Unocal's patent for some formulations of RFG may have caused some refineries to change RFG blends in an apparent effort to avoid infringement or high royalty payments, leading to production delays and decreased refinery throughput.

*Midwest Gasoline Prices*, Presented by FTC Chairman Robert Pitofsky, Before the Committee on Commerce, U.S. House of Representatives (June 28, 2000), *available at* <www.ftc.gov/OS/2000/06/gasolinecommerce.htm>; *see also* Congressional Research Service, *RL30592: Midwest Gasoline Prices: A Review of Market Developments* (June 28, 2000),

---

[14] (...continued)
Petroleum Institute)), as did the House Commerce Committee, (*see, e.g.*, Pet. at 10), and the House Judiciary Committee (*see, e.g.*, House Judiciary Committee Hearings on Solutions to Competitive Problems in the Oil Industry, 2000 WL 23831097 (June 28, 2000) (statement of Chairman Henry J. Hyde)).

[15] *See, e.g., Clean Air, Empty Pockets*, THE WASH. TIMES, Sept. 10, 2000, at B2; Alexei Barrionuevo, *Majors Battle Unocal over Clean Gasoline Patent*, HOUSTON CHRON., Aug. 27, 2000, at 9; *California Southland Focus: Unocal to Seek More Damages in Patent Suit*, L.A. TIMES, Aug. 17, 2000 at C2; *Patent Case Could Threaten Enviro Compliance*, 10 AMERICAN POLITICAL NETWORK – GREENWIRE, No. 9, Aug. 17, 2000; *Gasoline Price Spikes Spark US Political Firestorm*, OIL AND GAS J., July 10, 2000, at 22; Tom Hamburger, *Ciresi Case Examined in Gasoline Price Increases: Oil Company Patent Case May Have Had Role, Some Say*, STAR-TRIBUNE, July 6, 2000, at 10A; Christopher Palmeri, et al., *Who's to Blame? OPEC? Refiners? Speculators? Regulators? Yes, Yes, Yes, and Yes*, BUSINESS WEEK, July 3, 2000, at 36; Frank Dabbs, *Bottom Lines*, OILWEEK, July 3, 2000, at 46; *Finding Relief for Motorists the Issue*, DENVER ROCKY MOUNTAIN NEWS, July 3, 2000, at 41A.

*available at* <http://www.cnie.org/nle/eng-62.html#Patented RFG>.

## II. Patent Applicants Should Not Be Permitted Merely to Anticipate Regulatory Requirements, Nor to Adapt Such Opportunistic Patents to Final Regulatory Requirements Through the Process of Amendment.

The Unocal patent at issue here can only be understood against the background of the regulatory and engineering framework set forth above. Under any reasonable understanding of the patent laws, Unocal's "discovery" should not be patentable at all. Quite simply, Unocal's patent rests on nothing more than a prediction of the shape and form of California regulations (at the patent-application stage) or a regurgitation of those California regulations (after the regulations were issued, and as the patent was being amended).

The Unocal patent *does not* involve a situation like the one where regulators (in California or elsewhere) imposed stricter standards for tailpipe emissions and the result was the invention of the catalytic converter. *Compare General Motors Corp. v. Toyota Motor Corp.*, 667 F.2d 504 (6th Cir. 1981) (upholding GM's patent on a type of catalytic converter), *cert. denied*, 456 U.S. 937 (1982). The catalytic converter was an innovative device whose *invention* was necessary to comply with such regulations – but, in no sense was it a device which was simply a direct outgrowth or nearly complete regurgitation of the regulations themselves. A typical clean-air environmental regulation which provides that only *x* grams per mile of nitrogen oxides (a precursor to smog formation), *see, e.g.*, Clean Air Act § 202 Table G, 42 U.S.C. § 7521 Table G, may be emitted by a vehicle does nothing to inform vehicle manufacturers how to achieve such an emissions level. Yet Unocal's patent essentially does nothing more than play back the regulations themselves.

The California RFG regulations that were being developed in the 1990s by the California Air Resources Board ("CARB") and refiners (including Unocal) define the entirety of Unocal's supposed innovation. The California RFG regulations at issue, for example, provided limits on Reid Vapor Pressure ("RVP"), T50 (temperature causing 50% evaporation), T90 (temperature causing 90% evaporation), olefins, paraffins, and aromatics (three different types of hydrocarbons), as well as an octane rating. The claims made by Unocal in the '393 patent impose similar limits. *See* Pet. App. 58a-64a.

Against the regulatory backdrop, it is impossible to conceive of the '393 patent and the claims based upon it as contributions to "Science and [the] useful arts."[16] Unocal did not design a new emissions control device like the catalytic converter to meet a new regulatory goal. All that Unocal did was to parrot the essence of the regulatory limits set by CARB. Indeed, Unocal admitted that its patent was filed in anticipation of CARB's regulations. *See* JA379, 564-65.

Perhaps it would have been a contribution to human knowledge sufficient to warrant patent protection if Unocal's engineers had run thousands of empirical tests on a range of fuel compositions permissible under the California regulations, in order to discover the narrow range of compositions that were optimal in meeting some specific metric – such as the maximum feasible emissions reduction under a given set of test condition at the lowest possible cost. That is manifestly not what happened here. Unocal's only "insight" was that controlling certain chemical properties in gasoline would reduce emissions – an insight wholly captured by the California regulations, and in any event well-known in the automotive and oil industries for many years before.[17]

---

[16] U.S. Const., art. I, section 8, cl. 8.

[17] For its part, GM had launched the campaign for cleaner gasolines in the

(continued...)

Nevertheless, as the undisputed evidence in the record demonstrates, the Unocal patent does not *represent* a discovery even in that limited sense – instead, it covers literally "trillions" of combinations under the regulations. JA742-43. As a Unocal representative stated after the patent was issued and was first made known to CARB and to the refining industry, "almost any gasoline that would be practical to make and meet the [CARB] requirements would fall under the scope of our patent." JA473.

It is also critical to note one more point in the strange history of the Unocal patent – namely, how it was amended to take account of the final form of the regulations. That history appears on pages 3-4 and 15-16 of Petitioners' brief. In GM's view, the most striking example of Unocal's regulatory opportunism is Unocal's treatment of the olefin content of "low-emission" fuel. Excessive olefin content in gasoline can lead to engine gumming and valve sticking, and therefore olefin content must be controlled to ensure optimal engine operation.

At first, Unocal asserted in its patent application that the "best" emissions results were to be achieved by driving olefin levels down to "essentially zero." After CARB's regulations failed to require that level of control, Unocal amended its patent to mirror the requirements of the regulations. *See* JA465. This example surely undermines any attempt by Unocal to argue that, while the insight of altering relevant chemical properties of gasoline to reduce emissions was known to regulators and to the auto and oil industries, Unocal's contribution was to determine by *how much* to alter those

---

[17] (...continued)
technical community almost a generation ago. *See GM Still Wants Costly Light Gasoline*, OIL AND GAS J. (Oct. 2, 1972) ("General Motors has put refiners on the spot again to come up with a radically new, more costly gasoline to help meet clean-air standards for 1975 model autos."); *GM Bids for Radically New Gasoline*, OIL AND GAS J. (Jan. 17, 1972) (providing GM's specifications for a new gasoline that would enable it to meet tighter emissions standards, including, *inter alia*, limits on RVP, T10, T50, T90, olefins, and aromatics).

chemical properties to achieve optimal emissions benefits.

The need to protect innovation is the driving force of the patent laws. *See* U.S. Const. art. I, sec. 8, cl. 8 ("The Congress shall have Power . . . To promote the progress of science and useful Arts, by securing for limited Times to Authors and *Inventors* the exclusive Right to their respective Writings and *Discoveries*.") (emphasis added); 35 U.S.C. § 101 ("Whoever *invents or discovers* any *new* and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore . . . .") (emphasis added).

Because there is no innovation by Unocal involved in its '393 patent, that patent should have been invalidated by the lower court. The majority of the Federal Circuit panel declined to do this based on a fundamental misapprehension of the constitutional and statutory scope of the patent law under this Court's well-established precedent stretching back at least as far as *Pope Manufacturing Co. v. Gormully*, 144 U.S. 224, 234 (1892). This is that unique case under patent law where the thing claimed to be patented – far from being a novel invention – was simply a recasting of regulatory requirements in the form of sweeping claims that are entirely self-evident.

The Federal Circuit's majority turns a deaf ear to a series of congressional actions and judicial decisions warning the need for a careful inquiry into the interactions between patent law and regulatory law. *See, e.g., Eli Lilly and Co. v. Medtronic, Inc.*, 496 U.S. 661 (1990) (exploring relationship between the patent laws and the medical device regulatory schema in light of an amended Food, Drug, and Cosmetic Act). The failure to consider regulatory background here exposes the crippling weaknesses in the Federal Circuit's opinion.

For example, in response to the argument that no specific chemical compositions for the fuel being patented were specified, the Federal Circuit answered that those skilled in the art of refining know how to mix petroleum stocks to achieve

any set of specific properties, and thus a list of chemical properties in the '393 patent is equivalent to instructions on how to use the patent in learned practice. *See* Pet. App. 3a. But in the context of the CARB regulations, which can be read to make similar chemical-property "claims," it is apparent that there is no innovation – nothing new – in Unocal's '393 patent that CARB itself did not "invent" when it wrote its regulations.

Similarly, the Federal Circuit responds to the argument that the Unocal patent is invalid because it does not prescribe a precise set of chemical properties, but rather ranges of properties, by stating that this "form of description does not offend [35 U.S.C.] § 112." Pet. App. at 15a (citation omitted). According to the lower court, this is so because the list of ranges for chemical properties would allow a skilled refiner to produce a specific gasoline blend, and thus, in context, Unocal's claims are a specific-enough set of instructions. *See id.*

But that rationale collapses back into the Federal Circuit's earlier explanation for why it was not necessary for Unocal to state its claims in terms of a specific chemical composition. The same weaknesses appear again once the role of the CARB regulations is considered – CARB defined the range of required chemical properties and Unocal simply repeated them or modified them. That is no basis for a valid patent. Rather, it is a recipe for defeating the very purpose of reformulated gasoline regulations, since the imposition of Unocal's royalties will encourage non-Unocal refiners to blend away from Unocal's "discovery" to the detriment of the motoring public and environmental protection.

Additionally, it is plain that the CARB regulations themselves also implicitly state ranges because they set chemical-property cut-off points that must be met for any gasoline that is to be lawfully sold.

## III. The Lower Courts Here Should Never Have Validated a Patent Resting Purely on Preexisting Innovations and Did So Only by Ignoring this Courts' Clear Precedent.

Two bedrock limitations in patent law are: *first*, that a court may not read into a patent claims that are not there in order to limit the scope of the patent and thus to distinguish it from prior art, and *second*, that a patentee does not possess a true patent (and thus cannot defeat an anticipation defense) if he simply adapts for a new use a product another has already discovered. Here, the Federal Circuit ran afoul of both of these important principles.

As the Federal Circuit forthrightly noted: "The claims of the '393 patent recite either '[a]n unleaded gasoline suitable for combustion in an automotive engine' or [a]n unleaded gasoline fuel suitable for combustion in a spark ignition automotive engine." Pet. App. 10a. But fuels with the characteristics of the claims made in the Unocal '393 patent were already available in the prior art for use in such engines. See Pet. 21-22 and JA553-55.

To avoid this glaring problem, the District Court and the Federal Circuit both read a key limitation into the patent claims that was not actually present in the patent's text. Since it has no anchor in the patent's text, the lower courts could only describe the new claim limitation they were adding in conceptual terms alternately as "fuels that will *regularly* be used in autos" (an ambiguous term itself, since race cars are every bit as much autos as vehicles mass produced for the consumer market) or "*standard* automotive gasoline." Pet. App. 10a (emphasis added). On that basis, the lower courts were able to reject the refiners' anticipation defense to patent validity because the claims for racing gasolines and for "standard" or "regular[]" gasolines are different, *see id.* at 11a.

Of course, it has long been known that "[t]he difficulty [with

such an approach] is that, if we once begin to include elements not mentioned in the claim in order to limit such claim and avoid a defense of anticipation, we should never know where to stop." *McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895). The panel's lapse in this regard thus places its decision squarely in conflict with other cases of the Federal Circuit following *McCarty*.

Even if it were proper claim construction to engage in a process of judicial amendment of claims by insertion of additional limiting text where some judges exercising hindsight on the applicant's behalf might think it appropriate, the Federal Circuit's decision here would still not be free of error.

As an indication of the majority's hyper-technical *modus operandi*, the court failed to appreciate that it should make no difference whether the prior art containing identical or similar chemical properties involved "standard" gasolines or racing-car gasolines. "It is not an invention to perceive that the product which others had discovered had qualities they failed to detect." *General Elec. Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945); *see also Ansonia Brass & Copper Co. v. Electrical Supply Co.*, 144 U.S. 11, 19 (1892); *Smith v. Nichols*, 88 U.S. (21 Wall.) 112, 119 (1874).

Whether Unocal's "innovation" was borrowed first-hand, from racing gasolines, or second hand, from racing gasolines by way of CARB's RFG regulations, the result should be the same – declaration of the '393 patent's invalidity and reversal of the judgment here.

## CONCLUSION

The Federal Circuit's rationale upholding the Unocal patent should be reversed on the grounds set forth in this brief and in the brief of the Petitioners. This is plainly a case where the Federal Circuit lost the forest for the trees. Its overly technical parsing of the doctrines it has propounded to elucidate the patent laws failed to recognize the fundamental point that in this case Unocal had done no more than to hijack the

environmental regulations of a state body for its own private gain.

So that the Court can consider and properly resolve important questions of patent law in a case of great significance for the environment and the economy, General Motors respectfully requests that the Court grant the Petition for *certiorari*, and set this case for briefing and oral argument.

Dated: September 14, 2000

Respectfully submitted,

FREDERICK A. FROMM, JR.
DAVID W. SCHRUMPF
GEORGE A. GROVE
General Motors Corporation
300 Renaissance Center
P.O. Box 3000
Detroit, MI 48265-3000
(313) 665-4879

EDWARD W. WARREN
*Counsel of Record*
STUART A.C. DRAKE
GRANTA Y. NAKAYAMA
JEFFREY BOSSERT CLARK
Kirkland & Ellis
655 Fifteenth Street
Washington, D.C. 20005
(202) 879-5000

*Counsel for General Motors Corporation*

No. 00-249

Supreme Court, U.S.
FILED
SEP 14 2000
CLERK

In The

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, et al.,

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA,

*Respondent.*

**On Petition For Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit**

## *AMICI CURIAE* BRIEF OF THE STATES OF ALABAMA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, DELAWARE, GEORGIA, ILLINOIS, INDIANA, KANSAS, KENTUCKY, MAINE, MASSACHUSETTS, MICHIGAN, MINNESOTA, MISSOURI, NEVADA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO, NEW YORK, NORTH CAROLINA, NORTH DAKOTA, OHIO, OKLAHOMA, PENNSYLVANIA, SOUTH CAROLINA, SOUTH DAKOTA, TEXAS, UTAH, VIRGINIA, WASHINGTON, WEST VIRGINIA, AND WISCONSIN AND THE DISTRICT OF COLUMBIA IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

BILL LOCKYER
Attorney General of the State of California
RICHARD M. FRANK
Chief Assistant Attorney General
MARY E. HACKENBRACHT
THOMAS GREENE
Senior Assistant Attorneys General
JOHN DONHOFF
MARC N. MELNICK
(*Counsel of Record*)
Deputy Attorneys General
1515 Clay Street, 20th Floor
Oakland, California 94612
(510) 622-2133

[Additional Counsel Listed On Inside Front Cover]

COCKLE LAW BRIEF PRINTING CO., (800) 225-6964
OR CALL COLLECT (402) 342-2831

Bill Pryor
Attorney General of the State of Alabama

Janet Napolitano
Attorney General of the State of Arizona

Mark Pryor
Attorney General of the State of Arkansas

Ken Salazar
Attorney General of the State of Colorado

M. Jane Brady
Attorney General of the State of Delaware

Thurbert E. Baker
Attorney General of the State of Georgia

James E. Ryan
Attorney General of the State of Illinois

Karen M. Freeman-Wilson
Attorney General of the State of Indiana

Carla Stovall
Attorney General of the State of Kansas

Albert B. Chandler III
Attorney General of the State of Kentucky

Andrew Ketterer
Attorney General of the State of Maine

Thomas F. Reilly
Attorney General of the Commonwealth of Massachusetts

Jennifer M. Granholm
Attorney General of the State of Michigan

Mike Hatch
Attorney General of the State of Minnesota

Jeremiah W. (Jay) Nixon
Attorney General of the State of Missouri

Frankie Sue Del Papa
Attorney General of the State of Nevada

Philip T. McLaughlin
Attorney General of the State of New Hampshire

John J. Farmer, Jr.
Attorney General of the State of New Jersey

Patricia A. Madrid
Attorney General of the State of New Mexico

Eliot Spitzer
Attorney General of the State of New York

Michael F. Easley
Attorney General of the State of North Carolina

HEIDI HEITKAMP
Attorney General of the
State of North Dakota

BETTY D. MONTGOMERY
Attorney General of the
State of Ohio

W.A. DREW EDMONDSON
Attorney General of the
State of Oklahoma

D. MICHAEL FISHER
Attorney General of the
Commonwealth of
Pennsylvania

CHARLIE CONDON
Attorney General of the
State of South Carolina

MARK BARNETT
Attorney General of the
State of South Dakota

JOHN CORNYN
Attorney General of the
State of Texas

JAN GRAHAM
Attorney General of the
State of Utah

MARK L. EARLEY
Attorney General of the
Commonwealth of
Virginia

CHRISTINE O. GREGOIRE
Attorney General of the
State of Washington

DARRELL V. MCGRAW, JR.
Attorney General of the
State of West Virginia

JAMES E. DOYLE
Attorney General of the
State of Wisconsin

ROBERT R. RIGSBY
Corporation Counsel of
the District of Columbia

## QUESTIONS PRESENTED

1. Whether the federal courts should uphold the validity of a patent when the patent's sole value comes from its resemblance to state regulatory requirements, rather than from the discovery of an innovative technology, and the patent is contrary to the public interest.

2. Whether a patent is valid when the patent's original claims include one trillion different combinations, and its claims are thereafter changed to claims which resemble regulatory requirements.

3. Whether a patent applicant should be required to fully and completely disclose all material information to the Patent and Trademark Office.

TABLE OF CONTENTS

Page

QUESTIONS PRESENTED ..... i

TABLE OF CONTENTS ..... ii

TABLE OF AUTHORITIES ..... iii

INTEREST OF *AMICI CURIAE* ..... 1

REASONS FOR GRANTING THE PETITION ..... 5

I. THE COURT SHOULD REQUIRE THE FEDERAL COURTS TO EVALUATE PATENTS IN LIGHT OF THE PUBLIC INTEREST ..... 5

II. THE COURT SHOULD REQUIRE A STRICT CONSTRUCTION OF THE PATENT LAW'S WRITTEN DESCRIPTION REQUIREMENT IN CASES SUCH AS THIS ..... 7

III. THE COURT SHOULD ALSO ENSURE THAT PATENT APPLICANTS MAKE A FULL AND COMPLETE DISCLOSURE TO THE PATENT AND TRADEMARK OFFICE ..... 10

CONCLUSION ..... 13

# TABLE OF AUTHORITIES

Page

CASES

*Beckman Instruments, Inc. v. Chemtronics, Inc.*, 439 F.2d 1369 (5th Cir. 1970), *cert. denied*, 400 U.S. 956 ..... 6

*Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991) ..... 5

*Fujikawa v. Wattanasin*, 93 F.3d 1559 (Fed. Cir. 1996) ..... 8

*Graham v. John Deere Co.*, 383 U.S. 1 (1966) ..... 5

*Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1076 (1990) ..... 10

*Kingsland v. Dorsey*, 338 U.S. 318 (1949) ..... 10

*Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 876 ..... 10

*Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co.*, 324 U.S. 806 (1945) ..... 10

*Rengo Co. v. Molins Mach. Co.*, 657 F.2d 535 (3rd Cir. 1981), *cert. denied*, 454 U.S. 1055 ..... 8

*Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) ..... 5

*U.S. v. Singer Mfg. Co.*, 374 U.S. 174 (1963) ..... 6

*Universal Oil Prods., Inc. v. Globe Oil & Ref. Co.*, 322 U.S. 471 (1944) ..... 8

*Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172 (1965) ..... 10

TABLE OF AUTHORITIES – Continued

Page

CONSTITUTIONAL PROVISIONS

CONST. art. I, § 8, cl. 8 ..... 5

STATUTES AND REGULATIONS

United States Code, title 35
§ 112 ..... 8

United States Code, title 42
§ 7545 ..... 1

§ 7545(c)(4)(B) ..... 2

§ 7545(c)(4)(C) ..... 2

California Health & Safety Code
§ 43013 ..... 2

§ 43018 ..... 2

Code of Federal Regulations, title 40
Part 80 ..... 1

§§ 80.40-.83 ..... 2

65 Federal Register 16094 (Mar. 24, 2000) ..... 2

California Code of Regulations, title 13
§§ 2250-73 ..... 2

OTHER MATERIALS

Alexei Barrionuevo, *Exhausting Feud: A Patent Fracas Pits Unocal Corp. Against Big U.S. Oil Producers*, WALL ST. J., Aug. 17, 2000, at A1 ..... 3

Alexei Barrionuevo, *Fears Over Gasoline Patents May Buttress Prices*, WALL ST. J., May 1, 2000, at A2 ..... 3

TABLE OF AUTHORITIES – Continued

Page

Pam Belluck, *In Gas Prices, Misery and Mystery*, N.Y. TIMES, June 14, 2000, at A18 ..... 3

*Patents: Witnesses at Oversight Hearing Testify on Continuing Issue of PTO Fee Diversion*, BNA PATENT, TRADEMARK & COPYRIGHT LAW DAILY, Mar. 14, 2000 ..... 11

## INTEREST OF *AMICI CURIAE*

Ordinarily, States are not interested in disputes over the validity of patents. Nevertheless, these States are concerned about this particular case because it raises broad policy implications, beyond the rights of a few private corporations.

The basis for our concerns is that the value of Unocal's patent derives solely from its similarity to the complex requirements of California's cleaner-burning gasoline regulations. Unocal's patent is not for a new technology or a new chemical. Rather, the patent claims various combinations of gasoline characteristics, designed to resemble the regulatory requirements set by California. Unocal has essentially sought to patent a state regulatory requirement.

The States' concerns fall into two categories. First, the Federal Circuit's decision potentially allows Unocal to monopolize the retail gasoline market, and significantly increase the price consumers pay for gasoline. Second, Unocal's prosecution of this patent distorted and abused California's administrative regulatory process, and provides a model for similar mischief in a variety of important environmental and consumer protection contexts. The States – unlike the oil companies who are parties – are uniquely positioned to supply public law and policy analysis on these issues of public concern.

The Clean Air Act allows the federal government to regulate the composition of gasoline, in order to control ozone, the primary constituent of smog across the Nation. *See* 42 U.S.C. § 7545; 40 C.F.R. Part 80. This legislation recognized that the composition of gasoline can greatly

influence the amount of ozone-forming pollutants in car and truck emissions. The most recent iteration of gasoline that meets these federal requirements is commonly called federal reformulated gasoline, or federal RFG. *See* 40 C.F.R. §§ 80.40-.83.

The Clean Air Act also allows California to set more stringent fuel specification standards, and it has done so. *See* 42 U.S.C. § 7545(c)(4)(B); Cal. Health & Safety Code §§ 43013, 43018; 13 Cal. Code Regs. §§ 2250-73. The gasoline that California allows to be sold within its boundaries is commonly called CaRFG, or CARB gas. California's "Phase 2" requirements were adopted in 1991, and the "Phase 2" technical requirements were finalized in 1994. Other States could also adopt advanced fuel specification regulations, if those regulations were necessary to reach air quality standards and the appropriate approvals were obtained. *See* 42 U.S.C. § 7545(c)(4)(C). *See also* 65 Fed.Reg. 16094, 16096-97 (Mar. 24, 2000) (describing the areas, within many of the *Amici* States, where reformulated gasoline is required to be sold and used).

In this case, Unocal's inventors admitted that this patent was developed to "resemble" California's fuel specification regulations. Thus, the trier of fact determined that 29% of all of the gasoline sold in California, for the five months at issue at the trial, was within Unocal's patent. The trial court awarded damages – computed at 5¾ cents per gallon – of over $69,000,000, plus interest, attorneys' fees and costs. That amount was for only the five months at issue during the trial, and only for California. It remains to be seen what the complete –

and ongoing – effects of this patent will be. However, they are sure to be considerable.

This case has serious implications beyond this one particular patent, however, and beyond California. *Unocal has since obtained four other, similar patents.* All were based on the original patent application, and Unocal appears to have designed these additional patents to "resemble" the federal, nation-wide fuel specification regulations. *See* Alexei Barrionuevo, *Exhausting Feud: A Patent Fracas Pits Unocal Corp. Against Big U.S. Oil Producers*, WALL ST. J., Aug. 17, 2000, at A1. No litigation has yet occurred on these additional four patents, but the potential is there for Unocal to control the entire Nation's gasoline market, increasing prices even further. The patents certainly have increased uncertainty about the availability of gasoline, and therefore have already indirectly increased consumer prices. *See* Alexei Barrionuevo, *Fears Over Gasoline Patents May Buttress Prices*, WALL ST. J., May 1, 2000, at A2; Pam Belluck, *In Gas Prices, Misery and Mystery*, N.Y. TIMES, June 14, 2000, at A18. As every consumer knows, retail gasoline prices have increased dramatically in the last two years, with even higher temporary price spikes. Because of these potentially widespread economic effects, this case has important consequences for the Nation.

Even beyond the retail gasoline price consequences of this patent, this case portends undeniable conflict between the patent system and the States' obligations to protect their citizens. This is because Unocal's patents could provide it with a monopoly on a product which the law requires consumers to use. In this case, California adopted the strictest cleaner-burning gasoline requirements in the nation, in an effort to protect the health of its

citizens. California actually set standards for the composition of gasoline to be sold within its borders. Unocal has attempted, by this patent, to commandeer these regulations – adopted for the benefit of all California residents – for its own profit motive. This places the State of California in the untenable position of effectively having to choose between cleaning up the air and encouraging increased competition in the gasoline market.

In many other arenas, in order to protect the health and safety of their citizens, the States may feel compelled to require the use of a particular product, or the use of a product with particular characteristics. This could occur in the context of environmental protection or consumer safety regulation. States might wish to require particular water quality control technology. States might wish to require particular products to be sold in particular containers. States might wish to require drivers to use particular safety equipment. The patent system should not allow opportunistic businesses to covertly create monopolies on these regulatory choices. Nor should it force States considering these kinds of approaches – requiring the use of a product developed through a state regulatory process – to also risk unknowingly providing a monopoly (and the accompanying windfall) to the first manufacturer of the legally-required product.

What makes this patent even more unconscionable is that Unocal developed this patent while it was participating in a public-private partnership designed to assist in the development of the regulations at issue. Unocal did not develop its patent *after* the regulations were adopted, as a consequence of a technology-forcing legal requirement. Nor did Unocal disclose the patent to the State of

California, so that the State could take the patent into account in deciding whether to adopt the regulations. Rather, Unocal kept the patent application, its amendments, and the patent itself secret until after the regulations were finalized – *while Unocal was discussing, with its competitors and the State of California, what form the California regulations should take.* In this way, Unocal sought to hijack and distort the state regulatory process.

The overarching question this case presents is whether the Courts of the United States should allow the patent system to be used in this manner, to distort and plunder the States' regulatory processes. Never before has the Court addressed this exceedingly important question.

## REASONS FOR GRANTING THE PETITION

### I. THE COURT SHOULD REQUIRE THE FEDERAL COURTS TO EVALUATE PATENTS IN LIGHT OF THE PUBLIC INTEREST

The explicit purpose of the Constitution's Patent and Copyright Clause is to "promote the Progress of Science and useful Arts." CONST. art. I, § 8, cl. 8. Thus, patents are granted to serve the public interest. *See Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349 (1991) ("The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and the useful Arts.' "); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) ("the limited grant is a means by which an important public purpose may be achieved"); *Graham v. John Deere Co.*, 383 U.S. 1, 5-6 (1966)

(discussing that the federal patent power does not go beyond the constitutional grant of power). "When there is no novelty and the public parts with the monopoly grant for no return, the public has been imposed upon and the patent clause subverted." *U.S. v. Singer Mfg. Co.*, 374 U.S. 174, 199 (1963) (White, J., concurring). As one Court of Appeals long ago stated, "the law does not allow the granting of these valuable franchises to private individuals, with consequent public detriment, unless there is a concomitant public benefit." *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 439 F.2d 1369, 1371 (5th Cir. 1970), *cert. denied*, 400 U.S. 956.

While we should encourage companies to pursue innovation to meet consumer demands, or to meet already-adopted technology-forcing environmental requirements, that is not what occurred here. Unocal's amendment and substitution of patent claims simply tracked the development of the California's cleaner-burning gasoline regulations. As one of Unocal's inventors testified, "Some of [the claims] were narrowed at various times to resemble the [California] regulations." Moreover, at the same time it was prosecuting this patent, Unocal was lobbying before California's administrative agency, participating in an administrative process, intended for the benefit of the general public, which would create regulations Unocal could use to attempt to control the California gasoline market. The actual value of this patent flows from the fact that it covers products required by California's cleaner-burning gasoline regulations, *not the patent's inventiveness*. Unocal would have had to meet

these regulatory requirements to sell gasoline in California, regardless of whether it developed a patent. Upholding the validity of the patent just rewards Unocal's timing, secretiveness and audacity. It does not serve the public interest.

Amazingly, the courts below ignored the public interest implications at play in this case. Those public policy arguments fell on deaf ears at the trial court and at the Federal Circuit. *Nowhere* does the decision below address the requirement that the patent be in the public interest. There simply is no discussion of the implications of this decision. Instead, the lower courts focused exclusively on the parties before them. This Court needs to remind the federal courts that patent cases – especially cases like this which have obvious consequences for ordinary, everyday consumers – are not just a financial dispute between two private corporations. Patent cases have an impact on the public at large. Consistent with the Constitution's Patent and Copyright Clause, this Court should require the federal courts, in deciding the validity of patents, to evaluate whether the patent is in the public interest. This case provides a splendid opportunity to do so, because the public interest weighs so clearly against the validity of this patent.

## II. THE COURT SHOULD REQUIRE A STRICT CONSTRUCTION OF THE PATENT LAW'S WRITTEN DESCRIPTION REQUIREMENT IN CASES SUCH AS THIS

One of the legal issues in this case is whether Unocal's original patent application contained a

sufficiently adequate written description of its subsequently added claims. This issue is salient because Unocal's original patent application would have included literally a trillion gasoline property combinations.

A patent application must include,

> "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

35 U.S.C. § 112. *See also Universal Oil Prods., Inc. v. Globe Oil & Ref. Co.*, 322 U.S. 471, 484 (1944) ("preciseness of description is essential"). As one Court of Appeals explained,

> "Adequate description of the invention guards against the inventor's overreaching by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation."

*Rengo Co. v. Molins Mach. Co.*, 657 F.2d 535, 551 (3rd Cir. 1981), *cert. denied*, 454 U.S. 1055. Without specific identification in the original application, "simply describing a large genus of compounds is not sufficient to satisfy the written description requirement as to particular species or sub-genuses." *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996).

These *Amici* States believe that important public policy considerations warrant the *strict construction* of the

patent laws, including the written description requirement, in a case such as this. This patent covers products *mandated* by government regulations developed during the patent application process. Failure to strictly construe the written description requirement will encourage companies to file broad, preliminary and ill-defined patent applications at the beginning of an administrative rulemaking process, followed by substantial amendments that conform more closely to the developing and ultimately adopted regulatory requirements – exactly as Unocal did in this case. Thus, a patent's monopoly will be achieved without disclosure to the rulemaking body (since patent applications can be kept secret), obstructing the agency's ability to protect and advance the public interest – again, exactly as Unocal did in this case. This is simply bad public policy.

In this case, in assessing the written description requirement, the Court of Appeals – over a vigorous dissent – allowed Unocal's written description because it came reasonably close. The panel failed to assess the connection between the California cleaner-burning gasoline regulations and Unocal's patent. Granting certiorari in this case provides this Court with the opportunity to ensure that the written description requirement will be vigorously enforced and strictly construed in cases involving the public interest.

## III. THE COURT SHOULD ALSO ENSURE THAT PATENT APPLICANTS MAKE A FULL AND COMPLETE DISCLOSURE TO THE PATENT AND TRADEMARK OFFICE

While pursuing patents, applicants have an obligation to conduct themselves with " 'the highest degree of candor and good faith.' "[1] *Kingsland v. Dorsey*, 338 U.S. 318, 319 (1949). "The far-reaching social and economic consequences of a patent, therefore, give the public a paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct and that such monopolies are kept within their legitimate scope." *Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co.*, 324 U.S. 806, 816 (1945). *See also Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 882 F.2d 1556, 1563 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1076 (1990). Moreover, this Court has more recently explained that if a patent applicant commits fraud on the Patent and Trademark Office, the applicant may be liable for antitrust violations. *See Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177 (1965); *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068-71 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 876.

It is no secret that there has been an overwhelming increase in the workload of the Patent and Trademark

---

[1] We are cognizant that the question of inequitable conduct is not squarely within the questions framed by the petition for writ of certiorari. However, we believe the question of inequitable conduct is inextricably linked to the question of whether a patent is in the public interest.

Office. With the current technological revolution, touching on computers, biotechnology and other fields, companies are filing an avalanche of patent applications. This increased workload has had an overpowering impact on the staff of the Patent and Trademark Office, and increased public scrutiny on the appropriateness of granting some patents. *See, e.g., Patents: Witnesses at Oversight Hearing Testify on Continuing Issue of PTO Fee Diversion,* BNA PATENT, TRADEMARK & COPYRIGHT LAW DAILY, Mar. 14, 2000 (discussing increased workload of Patent and Trademark Office and increased criticism of quality of patents issued). This means that the courts need to be particularly vigilant about the process by which patents – in secret – are sought.

In this case, Unocal failed to disclose to the Patent and Trademark Office the extent to which its patent grew from and was dependent upon the outcome of California's administrative regulatory proceedings. Unocal participated in a government-industry partnership to develop cleaner-burning gasoline. It knew that California was developing stringent fuel specification regulations. It modified its patent application to "resemble" those regulations. Yet, Unocal's disclosure to the Patent and Trademark Office was vague and incomplete. The only disclosure that Unocal made was to forward a newspaper article discussing the adoption of California's regulatory standards. Unocal failed to explain the significance of those regulations or indeed the *very close connection* between the regulations and its patent. Unocal had a duty to make a full and complete disclosure, and simply failed to do so. Unocal should have provided the Patent and Trademark Office this full and complete disclosure,

explaining that Unocal's patent claims were amended to resemble the California regulations, so that the Patent and Trademark Office could reasonably make a determination of whether this patent was innovative and in the public interest.

Patents are granted in the public interest, to promote the public welfare. Consumer welfare is, of course, also advanced by government-industry partnerships such as that formed to combat air pollution. It was at best inequitable conduct for Unocal to work hand-in-glove with the other participants in a state administrative process to develop cleaner-burning gasoline, while at the same time seeking to garner a monopoly from the fruits of that joint endeavor, all the while hiding its true objective. If Unocal had advised the State of California that it was seeking this patent, California could have taken into account that vital information in the administrative regulatory process. Instead, Unocal essentially sought in secret to patent the regulations which California adopted. A patent gained by virtue of such conduct should be invalidated as manifestly contrary to the public good.

## CONCLUSION

The Court should grant the petition for writ of certiorari.

Dated: September 14, 2000

Respectfully submitted,

BILL LOCKYER
Attorney General of the State of California
RICHARD M. FRANK
Chief Assistant Attorney General
MARY E. HACKENBRACHT
THOMAS GREENE
Senior Assistant Attorneys General
JOHN DONHOFF
MARC N. MELNICK
(*Counsel of Record*)
Deputy Attorneys General

[Additional Counsel Listed On Inside Front Cover]

MOTION FILED

SEP 14 2000

No. 00-249

# In The Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A. INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.
*Petitioners,*

vs.

UNION OIL COMPANY OF CALIFORNIA
*Respondent.*

**On Petition for a Writ of Certiorari To The United States Court of Appeals For The Federal Circuit**

## MOTION FOR LEAVE TO FILE BRIEF AND BRIEF FOR MEMBERS OF CONGRESS DENNIS J. KUCINICH, JOHN E. BALDACCI, THOMAS S. BARRETT, WILLIAM O. LIPINSKI, CYNTHIA McKINNEY, FRANK PALLONE, JR., AND BERNARD SANDERS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

GENE E. GODLEY
*Counsel of Record*
SCOTT H. SEGAL
BRACEWELL & PATTERSON, L.L.P.
2000 K Street, N.W., Suite 500
Washington, D.C. 20006-1872
(202) 828-5800

*Counsel for Amici Curiae*

13pp

No. 00-249

In The

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A. INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.
*Petitioners,*

vs.

UNION OIL COMPANY OF CALIFORNIA
*Respondent.*

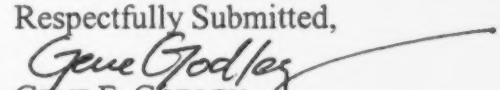
## MOTION FOR LEAVE TO FILE BRIEF *AMICUS CURIAE* AND BRIEF *AMICUS CURIAE*

Members of the House of Representatives of the United States of America Dennis J. Kucinich, John E. Baldacci, Thomas S. Barrett, William O. Lipinski, Cynthia McKinney, Frank Pallone, Jr., and Bernard Sanders hereby respectfully move for leave to file the attached brief *amici curiae* in the above-referenced case. The consent of the counsel of record for petitioners has been obtained. A letter of consent has been filed with the Clerk of the Court. The counsel of record for the respondent, Unocal, refused to give consent. Accordingly, *amici* hereby move for leave to file the attached brief *amici curiae*.

*Amici* are each Members of the U.S. House of Representatives and have an interest in ensuring that the patent dispute at issue in this case not jeopardize important aspects of national public policy favoring clean and affordable fuel supplies and favoring cooperative activities in anticipation of federal regulations.

Participating as *amici curiae*, these Members of Congress hope to aid the Court in its consideration of the petition for writ of certiorari by providing insight into the complexities of the important federal policies at issue in the above-referenced case.

Respectfully Submitted,



GENE E. GODLEY
Counsel of Record
SCOTT H. SEGAL
BRACEWELL & PATTERSON, L.L.P.
2000 K Street, N.W., Suite 500
Washington, D.C. 20006-1872
(202) 828-5800

Counsel for *Amici Curiae*

## TABLE OF CONTENTS


| | Page |
|---|---|
| Interest of *Amicus Curiae* | 1 |
| Argument | 2 |
| Conclusion | 8 |


## TABLE OF AUTHORITIES

**FEDERAL CASES**


| | Page |
|---|---|
| *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 439 F.2d 1369, 1371 (5th Cir. 1970) | 8 |
| *Cummock v. Gore*, 180 F.3d 282 (D.C. Cir. 1999) | 6 |


**FEDERAL STATUTES**


| | |
|---|---|
| 35 U.S.C. § 112 | 7 |
| CLEAN AIR ACT, 42 U.S.C. § 7401 et seq. | 3 |
| DEPARTMENT OF ENERGY ORGANIZATION ACT § 102(9), 42 U.S.C. § 7112(9) | 3 |
| FEDERAL ADVISORY COMMITTEE ACT, 5 U.S.C. App. 2 § 2(a) | 6 |
| FEDERAL ENERGY ADMINISTRATION ACT OF 1974 § 2(a), 15 U.S.C. § 761(a) | 3 |


**MISCELLANEOUS**


| | |
|---|---|
| ALEXEI BARRIONUEVO, *A Patent Fracas Pits Unocal Corp. Against Big U.S. Oil Producers*, Wall St. J., August 17, 2000, at A1. | 5, 7 |

WILLIAM CLAIBORNE & CECI CONNOLLY, *Presidential Politics at the Pump*, Wash. Post, June 22, 2000, at A1. . . . . 4

H.R. Rep. No. 92-1017 (1972), reprinted in 1972 U.S.C.C.A.N. 3491, 3496 . . . . . 6

H.R. Rep. No. 106-674, at 47 (2000) . . . . . 8

LAWRENCE KUMINS, Cong. Res. Service Report to Congress No. RL30592, *Midwest Gasoline Prices: A Review of Recent Market Developments* (June 28, 2000) . . . . . 4

CATHY LANDRY, *US EPA to Propose Credit Linked to Ethanol*, Platt's Oilgram News, June 29, 2000, at 1. 5

SUZANNE MCELLIGOTT, *Unocal Collects on MTBE Patent*, Chemical Week, July 5, 2000/July 12, 2000, at 26. . 5

MIGDON SEGAL, Cong. Res. Service Report 93-614SPR, *Ethanol and Clean Air: The "Reg-Neg" Controversy and Subsequent Events* (June 22, 1993) . . . . . 7

*Solutions to Competitive Problems in the Oil Industry, Part 3: Hearings Before the House Comm. on the Judiciary,* 106th Cong. (2000)(statement of Richard G. Parker, Director, Bur. of Competition, FTC). . . . 3

*Unocal Offers Truce in Gasoline Patent Row*, Reuters, August 18, 2000, available at www.reuters.com/news_company . . . . . 5

In The

# Supreme Court of the United States

---

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A. INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.

*Petitioners,*

VS.

UNION OIL COMPANY OF CALIFORNIA

*Respondent.*

---

## BRIEF FOR MEMBERS OF CONGRESS DENNIS J. KUCINICH, JOHN E. BALDACCI, THOMAS S. BARRETT, WILLIAM O. LIPINSKI, CYNTHIA McKINNEY, FRANK PALLONE, JR. AND BERNARD SANDERS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

---

## INTEREST OF AMICUS CURIAE [1]

*Amici* are Members of the House of Representatives of the United States of America. Congressman Dennis J. Kucinich represents the Tenth District of Ohio. Congressman John E. Baldacci represents the Second District of Maine.

---

[1] Pursuant to Rule 37.6 of the Rules of this Court, counsel hereby certifies that the brief submitted on behalf of *amici curiae* Members of Congress was not authored in whole or in part by counsel for a party, and no person or entity other than the *amici* and their staff has made a monetary contribution to the preparation of this brief.

Congressman Thomas M. Barrett represents the Fifth District of Wisconsin. Congressman William O. Lipinski represents the Third District of Illinois. Congresswoman Cynthia McKinney represents the Fourth District of Georgia. Congressman Frank Pallone, Jr. represents the Sixth District of New Jersey. Congressman Bernard Sanders represents the State of Vermont. *Amici* have an interest in ensuring that the patent dispute at issue in this case not jeopardize important aspects of national public policy favoring clean and affordable fuel supplies and favoring cooperative activities in anticipation of federal regulations.

## ARGUMENT

The Court of Appeals for the Federal Circuit has upheld a patent for a fuel descriptive of an anticipated regulatory requirement developed by an administrative agency. The agency was working in close cooperation with members of the regulated community and public interest groups. By upholding this patent, the Federal Circuit has inflicted substantial collateral damage on two important federal policies. The first policy, reflected in the federal Clean Air Act, is to produce clean reformulated gasoline in an affordable manner. Congress has expressly indicated in energy and antitrust legislation that consumer interests are to be protected. The second policy, reflected in the Federal Advisory Committee Act and other statutes, is to encourage cooperative efforts in anticipation of rulemaking in order to facilitate appropriate research and implementation. By failing to consider adequately the context in which the patent was developed, the Federal Circuit has undermined these important public policy objectives to the detriment of the consumer and the environment.

## I. The Federal Circuit Decision Undermines the Strong Federal Interest in Protecting the Environment and the American Consumer

### A. There Is a Strong Federal Interest Both in Protecting the Environment and in Protecting Gasoline Consumers.

The Congress of the United States adopted the Clean Air Act, 42 U.S.C. § 7401 et seq., with the clear purpose in mind "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b)(1). In addition, Congress has been clear in both federal energy policy[2] and in antitrust policy[3] that consumer

---

[2] Federal Energy Administration Act of 1974 § 2(a), 15 U.S.C. § 761(a)("The Congress hereby declares that the general welfare and the common defense and security require positive and effective action" to ensure "the maintenance of fair and reasonable consumer prices" for energy); Department of Energy Organization Act § 102(9), 42 U.S.C. § 7112(9)(purpose of Act "[t]o promote the interests of consumers through the provision of an adequate and reliable supply of energy at the lowest reasonable cost.").

[3] *Solutions to Competitive Problems in the Oil Industry, Part 3: Hearings Before the House Comm. on the Judiciary,* 106th Cong. (2000)(statement of Richard G. Parker, Director, Bur. of Competition, FTC)("Consumer welfare is the goal of antitrust enforcement across all industries. Its importance is particularly clear in the energy industry, where even small price increases can strain the budgets of many consumers, particularly those with low and fixed incomes, and of small business, and, as a result, can have a direct and lasting impact on the entire economy. In fiscal years 1999 and 2000 to date, the Bureau of Competition spent almost one-third of its total enforcement budget on investigations in energy industries.") <http://www.house.gov/judiciary/park0628.htm>

welfare should be protected through maintaining adequate energy supply and reasonable prices.

### B. The Federal Circuit Decision Undermines Consumer Protection Interests.

In the summer of 2000, American consumers were treated to gasoline prices substantially higher than predicted by industry or government.[4] The factors that contributed to this gasoline price increase are many, including higher crude prices, the use of ethanol in clean, reformulated gasoline ("RFG"), pipeline problems, and low inventories of crude oil, gasoline, and blendstocks.[5] However, another factor complicating the situation for gasoline consumers was the continuing controversy surrounding the patents for gasoline reformulation claimed by the Unocal Corporation. These patent claims imposed direct costs on refiners allegedly operating under the teachings of the patent, and indirect costs for refiners attempting to blend around the patents. Worse yet, given the acknowledged tightness in RFG supplies in certain regions, the Unocal controversy created a chilling effect forcing some refiners to reconsider their continued participation in the RFG program. Taken together, legal uncertainties present in this case helped to perpetuate conditions under which the spot

---

[4] William Claiborne & Ceci Connolly, *Presidential Politics at the Pump*, Wash. Post, June 22, 2000, at A1 (referencing substantial increases in gasoline prices, particularly related to reformulated gasoline markets in the Midwest).

[5] Lawrence Kumins, Cong. Res. Service Report to Congress No. RL30592, *Midwest Gasoline Prices: A Review of Recent Market Developments* (June 28, 2000) (hereinafter "CRS Report"), at 1-2.

market for RFG was quick to yield high prices and slow to return them to more acceptable levels.[6]

While the litigants in this matter may legitimately disagree over the aggregate effect of the Unocal patent on the price of RFG, there can be no doubt that the atmosphere created by the controversial origin of the patent has undermined the stability of the RFG program. The Congressional Research Service wrote that, "refiners using the Unocal process without a license operate in an area of uncertainty, because the cost of licensing the Unocal process has not yet been determined. Some contend that this uncertainty created by the court decision has adversely impacted RFG production." CRS Report at 7.

Essentially, the Federal Circuit has placed the policy goals of environmental protection and consumer welfare squarely in conflict by failing to consider the circumstances under which the Unocal patent was developed, amended, and ultimately granted.

---

[6] This widespread consensus is discussed at *Unocal Offers Truce in Gasoline Patent Row*, Reuters, August 18, 2000, available at www.reuters.com/news_company ("The patents are widely blamed for contributing to high gasoline pump prices in the U.S. this year, making it more difficult for refiners to meet new federally mandated clean burning fuel requirements used at roughly a third of the nation's pump."). See also Cathy Landry, *US EPA to Propose Credit Linked to Ethanol*, Platt's Oilgram News, June 29, 2000, at 1 ("Some industry sources have said fear of infringing on Unocal's RFG patent has played a role in the surging Midwest RFG prices."); Suzanne McElligott, *Unocal Collects on MTBE Patent*, Chemical Week, July 5, 2000/July 12, 2000, at 26 ("The [Unocal] patent has been cited as a reason for the higher prices of gasoline where reformulation is required."); Alexei Barrionuevo, *A Patent Fracas Pits Unocal Corp. Against Big U.S. Oil Producers*, Wall St. J., August 17, 2000, at A1 (Unocal patent royalties "would probably be translated into higher prices at the gas pump.").

## II. The Federal Circuit Decision Undermines the Strong Federal Interest in Encouraging Open and Balanced Cooperation Between the Regulated Community, Public Interest Groups, and Governmental Agencies in Developing Environmental Standards

### A. There Is a Strong Federal Interest in Encouraging Cooperative Efforts to Implement Environmental Programs.

The U.S. Congress has long recognized the value of cooperative negotiations between industrial, public interest, and governmental actors. See Federal Advisory Committee Act, 5 U.S.C. App. 2 § 2(a) (Congressional finding that such cooperative negotiations "are frequently a useful and beneficial means of furnishing expert advice, ideas, and diverse opinions to the Federal Government."); see also *Cummock v. Gore*, 180 F.3d 282 (D.C. Cir. 1999). The adoption of statutes like FACA was with the purpose in mind of preserving vital cooperative efforts without subverting the process to the special interest motivations of the participants. Id.; see H.R. Rep. No. 92-1017 (1972), reprinted in 1972 U.S.C.C.A.N. 3491, 3496 ("One of the great dangers in the unregulated use of advisory committees is that special interest groups may use their membership on such bodies to promote their private concerns."). The use of cooperative regulatory negotiation was a particularly critical element in the development and implementation of the federal RFG program. Such cooperation is essential to developing complex programs, and to ensure that such programs are implemented with a minimum of subsequent interference from

either the courts or Congress.[7]

### B. The Federal Circuit Decision Undermines Cooperative Efforts.

Far more is at stake in the current case than the cost-effectiveness of the federal RFG program. Unocal participated in cooperative exercises with state and federal officials and fellow members of the industrial community. Thereafter, Unocal manipulated its patents through amendment to capture the fruits of this joint labor.[8] It did so without the "full, clear, concise, and exact" statement required under applicable patent law. 35 U.S.C. § 112. If the patent law allows Unocal to benefit from participation in cooperative negotiations as cover for its own pecuniary gain, the whole fabric of regulatory negotiation and compromise may well fray. Barrionuevo, *supra*, at A1 (citing economists that "see the Unocal patent case as cause for concern beyond the petroleum business. It could discourage companies in high-technology and other industries from collaborating on environmental standards, if rivals worry that one of their number will patent the result, according to this view."). The loss of cooperation undermines the regulatory process, and can diminish environmental protection if research

---

[7] *See* Migdon Segal, Cong. Res. Service Report 93-614SPR, *Ethanol and Clean Air: The "Reg-Neg" Controversy and Subsequent Events* (June 22, 1993) at 3, available at www.cnie.org/n/e/air-7.html. ("This negotiation was intended to keep the potentially controversial regulations out of the courts, and to avoid future congressional involvement, by obtaining agreement among all interested parties before the regulations were written. EPA would then write the regulations, but this would presumably be a straightforward and noncontroversial task, embodying the principles already agreed to in the negotiated agreement.").

[8] Barrionuevo, *supra*, at A8 (describing Unocal's effort to manipulate regulatory negotiations to benefit from patent applications).

efforts are thereby chilled. See H.R. Rep. No. 106-674, at 47 (2000)(environmental research necessary "to provide the scientific knowledge and technologies necessary for preventing, regulating, and abating pollution, and to anticipate emerging environmental issues.").

## CONCLUSION

The Patent Clause of the U.S. Constitution "does not allow the granting of these valuable franchises to private individuals, with consequent public detriment, unless there is a concomitant public benefit." *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 439 F.2d 1369, 1371 (5th Cir. 1970). *Amici* respectfully submit that the context of regulatory development in which the present patent was filed and amended presents important public detriments (without corresponding benefits), reflected in both consumer and environmental policy.

For the foregoing reasons, the petition should be granted.

Respectfully submitted,

GENE E. GODLEY
Counsel of Record
SCOTT H. SEGAL
BRACEWELL & PATTERSON, L.L.P.
2000 K Street, N.W., Suite 500
Washington, D.C. 20006-1872
(202) 828-5800

*Counsel for Amici Curiae*

Dated: September 14, 2000

Supreme Court, U.S.
FILED
SEP 25
CLERK

(7)

No. 00-249

IN THE

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA

*Respondent.*

**On Petition For a Writ of Certiorari To the United States Court of Appeals For the Federal Circuit**

## PETITIONERS' REPLY BRIEF

HARRY C. MARCUS
BARTHOLOMEW VERDIRAME
MORGAN & FINNEGAN, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

DONALD R. DUNNER
FORD F. FARABOW
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. EDWARD BRUCE
*(Counsel of Record)*
CHRISTOPHER N. SIPES
KEITH A. NOREIKA
COVINGTON & BURLING
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

*Attorneys for Petitioners*

12PP

## TABLE OF AUTHORITIES

**Page**

### CASES

*General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945) ..... 8

*Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) ..... 6

*McCarthy v. Lehigh Valley R. Co.*, 160 U.S. 110 (1895) ..... 6

*In re Ruschig*, 379 F.2d 990 (CCPA 1967) ..... 4

### STATUTES

35 U.S.C. § 102(f) ..... 3

35 U.S.C. § 112 ..... 1, 2, 3, 4, 5

35 U.S.C. §§ 251-252 ..... 6

## PETITIONERS' REPLY BRIEF

1. Unocal is unable to answer Refiners' showing that there was "clear, abundant, and undisputed evidence of Unocal's gaming of the regulatory and patent processes," Pet. 15, which demonstrated "that Unocal had *a fortiori* violated the [35 U.S.C.] § 112 requirement" that it had invented the specific fuels that Unocal patented, Pet. 14, when in fact its claims had been amended to "resemble" regulations promulgated by the California Air Resources Board ("CARB"). Accordingly, Unocal's opposition attempts to mislead this Court down three well-trod paths to a denial of the petition. Thus, it argues (a) that the Refiners are contending "that state-law regulatory requirements somehow dominate patent rights," a point that was not "presented to or decided by the Federal Circuit," Opp. 10; (b) that "the Federal Circuit's decision does not announce any principle of law . . . let alone fundamental ones. . . ," *id.* at 9-10, and (c) that the decision below was "highly fact-specific," *id.* at 10.

a. Starting with the first point, which is both the most pernicious and pervasive,[1] Unocal apparently assumes that this Court will simply disregard Refiners' arguments regarding the way in which the Federal Circuit failed to apply long-settled law under § 112 that "serve[s] as the only bulwark in patent law against [the] abuse" of the patent and regulatory processes. Pet. 2.

---

[1] *See, e.g.*, Opp. 12 ("[p]etitioners' central contention is that the patent claims' resemblance to state-law regulatory requirement should erase Unocal's patent rights even if the patent claims meet all other requirements, including the normal standards for adequate support in the original disclosure"); *id.* (accusing Refiners of proposing "an additional new test for satisfaction of the written-description requirement"); *id.* at 13-14 (referring to Refiners' alleged "regulatory trumping" and "regulatory-trumped contention").

Any fair reading – indeed, any reading *at all* – of the petition makes it clear that Refiners' argument is firmly anchored in what had been settled principles under § 112, which have their roots in this Court's decisions and which ensure that patents contain a written description demonstrating that, when the patent was filed, the applicants actually had invented what is later claimed. Pet. 11-12. Refiners argue here, as they did in the Federal Circuit, "that Unocal had *a fortiori* . . . violated § 112 . . . by virtue of its exploitation of the CARB regulatory process," *id.* at 14 – *i.e.*, by "amend[ing] all of its claims to 'resemble' CARB's requirements" in ways that "contradicted the teachings of Unocal's patent application . . . ," *id.* at 15. Thus, Refiners do not argue that CARB's regulations "trump" U.S. patent laws or invalidate patents that otherwise comply with those laws. Refiners instead argue that applicants violate § 112 when they file laundry-list applications in contemplation of regulations, Pet. 15, and then amend their claims (against the teachings of the patent) to "resemble" those regulations.

Unocal's charge that "Petitioners presented the regulatory context for atmospherics" in the Federal Circuit, Opp. 6, is ludicrous.[2] The relationship between Unocal's amended claims and CARB's regulations lay at the heart of Refiners' appeal. Thus, in their opening brief, pp. 1, 13, 43-46, in their Reply Brief, pp. 18-19, and in their Petition for Rehearing, pp. 6-9, Refiners argued to the court of appeals, just as they argue here, that Unocal's post-CARB-regulation amendment of its claims in ways that indisputably contradicted the teachings of Unocal's patent established a

---

[2] Refiners do not quarrel with Unocal's statement that "they made no contention that the CARB regulations trumped, or required bending of, the ordinary principles of patent validity." Opp. 6. As shown above, Refiners make no such contention here and made none below.

clear-cut violation of the written description requirement of § 112.[3]

b. Unocal's observation that the Federal Circuit did not "announce" that it was disregarding the relationship between Unocal's prosecution of its patent application and the CARB regulatory process is of course true. But silence, which is often golden, can also be probative.[4] Notwithstanding Refiners' emphatic argument that the regulatory context of this case established a violation of § 112, the Federal Circuit completely ignored the facts (1) that Unocal amended its claims to "resemble" CARB's requirements; (2) that those amendments in important respects (raising T10 and olefins, while removing aromatics) broadened Unocal's claims contrary to the teachings of its patent;[5] and (3) that without those amendments Refiners could have made gasolines with T10s and olefins that complied with CARB, while staying outside the limits taught in this patent. Pet. 15-16. The panel majority's rejection of Refiners' § 112 written description argument, without even acknowledging these facts, or for that matter even mentioning CARB or its regulations, can only be understood

---

[3] Unocal's citation to the district court's attorney's fee order referring to Refiners' abandonment of their defense under 35 U.S.C. § 102(f) that Unocal improperly derived its claims from CARB, Opp. 6, has nothing to do with their § 112 written description defense. Unocal would have violated § 102(f) if it had copied CARB *before* it filed its application.

[4] A. C. Doyle, *The Silver Blaze*, *reprinted in* The Complete Sherlock Holmes 335, 347 (Doubleday 1960) (recounting the clue of the dog that did not bark).

[5] Unocal's argument that its claims were narrowed, Opp. 15 n.5, because, for example, a T10 limit of 158°F (the legal maximum) was placed in some claims that had no prior T10 limit ignores the facts that the legal maximum is tantamount to no limit in the patent and that all of the original claims with a T10 limit capped it at 140°F or lower.

as a conscious decision by the court that Unocal's exploitation of the regulatory process was deemed irrelevant.

Unocal's assertion that this case involves no "fundamental" questions cannot be taken seriously. Surely, the relevance of the exploitation of the regulatory process under § 112 – the only provision in the patent laws that can be invoked against the abuse of amending claims to capture regulatory requirements – is a fundamental question which this Court should review. This is especially so because the panel majority refused to apply *In re Ruschig*, 379 F.2d 990 (CCPA 1967), and its progeny in this worst case scenario – *i.e.*, where Unocal's final 41 claims are not even *one billionth* of the more than *one trillion* combinations encompassed by the application and where they are the product of amendments, copied from regulatory requirements, that contradict the teachings of the patent. In these circumstances, the Federal Circuit has vitiated *Ruschig* and uprooted an entire doctrine of patent law.[6] These are structural changes in an area of law of increasing importance

---

[6] Unocal's assertion that *Ruschig* is distinguishable because Unocal's claims are expressed in "broad ranges" and the written description reveals "the directions of effects from changing variables [that] readily identified each of the ultimately claimed combinations," Opp. 15, asks this Court to ignore the undisputed facts, just like the panel majority. For example, the written description filed with the application taught that T10 should be 140°F or less, whereas after amending its claims to resemble CARB, T10 was raised to 158°F, and the increase in aromatics taught in this patent was abandoned when CARB decided to limit that property. Pet. 3-4.

Similarly, Unocal's reliance on the panel majority's statement that skilled artisans "know how to mix [petroleum] streams . . . to achieve a final product with desired characteristics," Opp. 8, quoting Pet. App. 21a, confuses enablement (teaching how to practice this invention) with the written description requirement that the applicant was "in possession" at the time of its application of later-added claims as required by § 112. *See* Pet. 12.

to the Nation and clearly deserve this Court's plenary attention.

c. The Federal Circuit's complete disregard of the exploitation of regulation in a § 112 case is not fact-specific, but instead is plain and irrefutable. To be sure, there are some facts discussed in the petition because Unocal's abuse of the patent/regulatory processes cannot be appreciated without some understanding of the way in which it filed an application allowing it to go in whatever direction CARB ultimately decided to regulate, amended its claims to "resemble" those regulations, and thereby placed Refiners into a patent-regulatory law vise. The important point here is that these facts are not disputed, which Unocal's own opposition in this Court – like its brief below – reveals.

2. Unsurprisingly, Unocal takes the same tack in dealing with Refiners' claim construction argument that it takes with respect to written description. Unocal makes the point that the courts below "did not announce any principle allowing addition of a limitation to claims," Opp. 17, and it describes Refiners' argument as involving "nothing more than a disagreement with the courts' construction of the key preamble phrases" in the patent, *id.* at 18. Once again, Unocal seems to assume that this Court will not read the petition, but instead will judge this case solely on the basis of what was said by the Federal Circuit panel majority.

a. To be sure, the panel majority did not announce that it was adding a claim limitation. However, as Refiners pointed out, Pet. 5, the district court candidly stated that it imposed a new limitation that Unocal's fuels were intended "for regular use in automobiles, *i.e.*, traditional motor gasoline[s] . . . mass-produced in typical refineries for the general motoring public," Pet. App. 47a, and that it did so "specifically to distinguish [the claimed] fuels from [prior] specialized fuels such as racing and aviation fuels," Pet. 5. This statement by the district court, coupled with its

instruction to the jury that prior art unleaded gasolines which were merely "suitable" for combustion in an automotive engine would not anticipate Unocal's patent, demolish Unocal's argument that all we have here is a "straightforward construction of claim terms indisputably present, namely, the preamble language." Opp. 18.[7]

As Refiners pointed out, the claims' preamble only limits unleaded gasoline fuels to those that are "suitable for combustion in an automotive engine," and the Refiners' prior art racing and aviation unleaded gasolines met that requirement because they satisfy ASTM industry standards for automotive spark-ignition fuel, Pet. 21 – a point that Unocal does not deny. However, the jury was told that it was not sufficient for such prior art fuels to be "suitable," but instead that they must also be "traditional" and must be made for the "general motoring public." Pet. 5.

The Federal Circuit panel majority, while ignoring the district court's instruction that "suitable" fuels would not anticipate Unocal's claims, affirmed its "traditional"/intended for the "general motoring public" construction of the claims by substituting the word "standard" for "traditional." This is not "straightforward construction of claim terms indisputably present," Opp. 18; this is a narrowing of the plain language of claims to avoid prior art which is forbidden to courts by *McCarthy v. Lehigh Valley R. Co.*, 160 U.S. 110 (1895), and can be accomplished, if at all, only by the Patent and Trademark Office via the patent-reissue process described in 35 U.S.C. §§ 251-252. *See* Pet. 25.

b. Unocal's reliance upon this Court's observations in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389

---

[7] Unocal correctly – and perhaps inadvertently – recognizes that the trial court's "construction" of the preamble of the patent claims "settled the anticipation issue, as the jury found." Opp. 7.

(1996), regarding the need to interpret claim terms based upon a "sophisticated analysis of the whole document" and thus to "preserve the patent's internal coherence," Opp. 16, backfires when put to the test.

First, neither the words "standard automotive fuel" (the limitation imposed by the Federal Circuit) nor "traditional motor gasoline" (the limitation imposed by the district court) appear *anywhere* in the patent, let alone in the language of the claims themselves. Instead, as noted above, that limitation was expressly added by the district court to avoid Refiners' prior art fuels in direct conflict with *McCarty* and a host of other cases.

Second, Unocal's patent did not claim and was not limited to so-called "standard" or "traditional" motor gasolines. As shown in the petition, p. 22, the patent itself reveals that Unocal's claims extend to unleaded gasoline fuels that do not comply with ASTM and cannot, therefore, even be sold to the public. Moreover, the patent acknowledges that "typical" gasolines are comprised of olefins, paraffins, and aromatics, whereas Unocal's preferred fuel has no olefins. JA460.[8]

c. Unocal's contention that "the invention targets . . . gasoline's designed for regular use at expected prices in the typical automobile driven by millions of drivers who cause

---

[8] As it succeeded in doing below, Unocal argues that "traditional" or "standard" gasolines are "*not* the same compositions as either the aviation or racing fuels that petitioners identified . . . ." Opp. 18. Of course, this argument collapses when the patent is interpreted, consistent with its plain meaning and "the whole document," as covering all "unleaded gasoline fuels suitable for combustion in an automotive engine."

pollution," Opp. 17,[9] on its face is a use limitation, which cannot sustain the new patenting of an old product under the rationale of *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 249 (1945), which Unocal itself acknowledges, Opp. 18. Thus, this Court need not go beyond the language of Unocal's own argument, which faithfully reflects the limitations imposed by the district court and the Federal Circuit, to conclude that decision below cannot stand under *General Electric*.

Moreover, even the few undisputed facts recited in the petition reveal the fallacy that undermines Unocal's argument. For example, Unocal's statement that the actual language of the claims' preamble – "an unleaded gasoline [fuel] suitable for combustion in an automotive engine" – cannot refer to "exorbitantly priced specialized high-purity gasolines made for specialized racing cars," Opp. 16-17, ignores the undisputed fact that Unocal marketed its own unleaded racing gasoline as "ideal for all . . . street vehicles. . . . [and available at] [h]undreds of Unocal service stations nationwide. . . ." Pet. 21-22.

3. The Federal Circuit's decision has prompted an unusual outpouring of expressions of concern by the States, members of Congress, the Nation's largest automobile manufacturer, and organizations representing refiners, large and small, throughout the Nation. As the brief authored by California and joined by 33 other States and the District of Columbia makes clear, Unocal has not only obtained the patent at issue here, but also four successor patents with more than 800 claims, Pet. 4 n.3 – that collectively create both the "potential . . . for Unocal to control the entire Nation's

---

[9] Incredibly, Unocal also asserts that "the preamble refers to" such gasolines, Opp. 17, as if the regular use/expected prices/typical automobile limitations can be found in the words of the preamble.

gasoline market, increasing prices even further . . . . [and] certainly . . . increas[ing] uncertainty about the availability of gasoline . . . ." States Br. 3.[10] *See also* Cong. Br. 4; API Br. 3; GM Br. 5.

Although unquestionably aware of the nation-wide implications of its patent position, Unocal shrugs off in a footnote, Opp. 11 n.3, the impact of the patent in this case as being only $11 per year for the average driver. But there are 182 million licensed drivers in the United States.[11] Plainly, Unocal seeks to garner enormous sums for an "invention" that it was able to patent only by exploiting the regulatory and patent processes and by persuading the Federal Circuit to impose an unstated limitation on Unocal's claims that was based upon a new method for using an old product in conflict with two of this Court's decisions.

---

[10] Undoubtedly anticipating that California would file an *amicus* brief in this Court, just as it did on rehearing in the Federal Circuit, Unocal advances two specious arguments in an attempt to lessen the impact of California's brief. First, Unocal argues that it "brought the [CARB] regulations to the attention of the PTO examiner" prior to the issuance of its patent. Opp. 4. However, a mere glance at the "disclosure" made by Unocal – *i.e.*, a brief newspaper account of CARB's regulations published before Unocal amended its claims to resemble CARB – shows that Unocal's filing was carefully designed *not* to disclose the relationship between CARB's regulations and Unocal's amended claims. JA5780-82.

Second, Unocal's suggestion that CARB should have, but did not "seek to pay for the invention of cleaner fuels" by Unocal, Opp. 4, in and of itself reveals Unocal's cynical attitude about its exploitation of the regulatory process.

[11] Statistical Abstract of the United States, p. 637, Table No. 1027 (1999).

## CONCLUSION

The petition should be granted.

Respectfully submitted,

Harry C. Marcus
Bartholomew Verdirame
Morgan & Finnegan, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

Donald R. Dunner
Ford F. Farabow
Finnegan, Henderson, Farabow,
Garrett & Dunner, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. Edward Bruce
(Counsel of Record)
Christopher N. Sipes
Keith A. Noreika
Covington & Burling
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

Attorneys for Petitioners

September 2000

Supreme Court, U.S.
FILED
JAN 19 2001

(8)

No. 00-249

# In the Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, ET AL., PETITIONERS

*v.*

UNION OIL COMPANY OF CALIFORNIA

*ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT*

## BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

SETH P. WAXMAN
*Solicitor General*
*Counsel of Record*

DAVID W. OGDEN
*Assistant Attorney General*

LAWRENCE G. WALLACE
*Deputy Solicitor General*

JAMES A. FELDMAN
*Assistant to the Solicitor General*

BARBARA BIDDLE
ALFRED MOLLIN
*Attorneys*

*Department of Justice*
*Washington, D.C. 20530-0001*
*(202) 514-2217*

ALBIN F. DROST
*Acting General Counsel*

JOHN M. WHEALAN
*Solicitor*

LINDA MONCYS ISACSON
MARK NAGUMO
*Associate Solicitors*
*United States Patent and Trademark Office*
*Arlington, VA 22215*

25pp

## QUESTIONS PRESENTED

1. Whether there was sufficient evidence in the record to permit a jury to conclude that respondent's patent application satisfies the written description requirement of 35 U.S.C. 112.

2. Whether the courts below correctly construed the scope of respondent's patent for purposes of determining whether, under 35 U.S.C. 102, the patent's claims were anticipated by certain specialty aviation and racing fuels.

## TABLE OF CONTENTS


| | Page |
|---|---|
| Statement | 1 |
| Discussion | 8 |
| Conclusion | 20 |
| Appendix | 1a |


## TABLE OF AUTHORITIES

Cases:


| | |
|---|---|
| *Carella* v. *Starlight Archery & Pro Line Co.*, 804 F.2d 135 (Fed. Cir. 1986) | 10 |
| *Dell Computer Corp, In re*, 121 F.T.C. 616 (1996) | 19 |
| *Driscoll, In re*, 562 F.2d 1245 (C.C.P.A. 1977) | 10 |
| *Evans* v. *Eaton*, 20 U.S. (7 Wheat.) 356 (1822) | 9 |
| *FCC* v. *Florida Power Co.*, 480 U.S. 245 (1987) | 14 |
| *General Elec. Co.* v. *Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945) | 15 |
| *McCarty* v. *Lehigh Valley R.R.*, 160 U.S. 110 (1895) | 15 |
| *Precision Instrument Mfg. Co.* v. *Automotive Maint. Mach. Co.*, 324 U.S. 806 (1945) | 18 |
| *Rengo Co.* v. *Molins Mach. Co.*, 657 F.2d 535 (3d Cir.), cert. denied, 454 U.S. 1055 (1981) | 9 |
| *Ruschig, In re*, 379 F.2d 990 (C.C.P.A. 1967) | 12 |
| *Saunders, In re*, 444 F.2d 599 (C.C.P.A. 1971) | 18 |
| *Scripps Clinic & Research Found.* v. *Genentech, Inc.*, 927 F.2d 1565 (Fed. Cir., 1991) | 15-16 |
| *Smith, In re*, 458 F.2d 1389 (C.C.P.A. 1972) | 10 |
| *SmithKline Beecham Consumer Healthcare, L.P.* v. *Watson Pharm., Inc.*, 211 F.3d 21 (2d Cir.), cert. denied, 121 S. Ct. 173 (2000) | 19 |
| *Universal Oil Products Co.* v. *Globe Oil & Refining Co.*, 322 U.S. 471 (1944) | 9 |
| *Vas-Cath Inc.* v. *Mahurkar*, 935 F.2d 1555 (Fed. Cir. 1991) | 3, 9, 10 |

Cases—Continued: Page

*Wertheim, In re*, 541 F.2d 257 (C.C.P.A. 1976) ..... 9, 10, 18
*Zenith Radio Corp.* v. *Hazeltine Research, Inc.*, 395 U.S. 100 (1969) ..... 18

Statutes, regulations and rule:

Patent Act of 1793, ch. 11, 1 Stat. 318 ..... 9
Patent Term Guarantee Act of 1999, Pub. L. No. 106-43, § 4402(b)(1), 113 Stat. 1501A-560 ..... 10
21 U.S.C. 355(j) (1988) ..... 20
35 U.S.C. 102(b) ..... 4
35 U.S.C. 102(f) ..... 13, 19
35 U.S.C. 112 ..... 3, 9, 13, 17, 18
35 U.S.C. 132 ..... 12
35 U.S.C. 282 (1994 & Supp. IV 1998) ..... 10
37 C.F.R. 1.111 ..... 12
40 C.F.R.:
Section 80.41 ..... 13
Section 80.45 ..... 13
Sup. Ct. R. 10(c) ..... 14

# In the Supreme Court of the United States

No. 00-249

ATLANTIC RICHFIELD COMPANY, ET AL., PETITIONERS

*v.*

UNION OIL COMPANY OF CALIFORNIA

*ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT*

## BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

This brief is submitted in response to the Court's order inviting the Solicitor General to file a brief expressing the views of the United States.

### STATEMENT

Petitioners, a group of oil refiners, challenge the validity of United States Patent No. 5,288,393 (the '393 patent), owned by respondent. The '393 patent is directed to reformulated unleaded gasoline intended to reduce harmful automobile emissions. After the filing date of the '393 patent, but before the patent issued, the California Air Resources Board (CARB) set standards for gasoline that may be sold in California, which were formulated following detailed and joint consultations with various interested entities, including respondent. After CARB promulgated its standards, respondent amended its application to include 41 claims, some of which are similar to the CARB regulatory conditions.

After a jury trial, the district court entered judgment in favor of respondent. The Court of Appeals for the Federal Circuit affirmed, holding that the record

contained substantial evidence to support the jury's factual determinations and that the district court had correctly interpreted the scope of the patent claims.

1. Gasolines are derived from components that are refined from crude oil. Those components must be blended so that the resulting gasoline will have properties that will give satisfactory performance over an extremely wide range of operating and climatic conditions. C.A. App. 5952. The '393 patent has to do with producing gasolines with certain combinations of properties that will reduce automobile tailpipe emissions. Pet. App. 2a.

2. On December 13, 1990, respondent filed a patent application for what became the '393 patent. C.A. App. 447. The application asserted an invention date of March 1990.[1] At the time of the application, CARB had begun a process designed to lead to the establishment of requirements for reformulated gasolines that would reduce emissions in California. The process involved close consultation with interested parties, including refiners such as petitioners and respondent, who shared technical skills and data with CARB in an effort to arrive at standards that would achieve the maximum reduction in emissions at the lowest cost. Respondent was one of the firms that participated in the process.

---

[1] During the same time period, respondent was involved in a joint research program sponsored by the automobile and oil industries to study how gasoline could be reformulated to reduce harmful emissions. Trial Tr. 1130-1137. The participants in the Auto/Oil program signed an agreement permitting each party to perform independent research and to protect any intellectual property assets that may arise from the individual research. *Ibid.* At the time the patent application was filed, CARB had already announced its intention to adopt reformulated gasoline regulations designed to reduce emissions, although the precise shape of those regulations was not yet clear. C.A. App. 5113-5131.

CARB announced its new regulations in November 1991, which were to be effective in early 1996. At that time, respondent was prosecuting the patent in the Patent Office. During the prosecution, respondent filed numerous information disclosure statements presenting information for consideration by the examiner, including one that informed the examiner of CARB's November 1991 standards. C.A. App. 5778-5782.

The '393 patent issued on February 22, 1994. Pet. App. 33a. The patent application contained 82 claims. *Id.* at 2a. During the prosecution of the patent, all of the patent's claims were modified. As issued, the patent included 155 claims, but respondent disclaimed all but the 41 at issue in this case. *Ibid.*

3. In April 1995, petitioners commenced this action in the district court against respondent for a declaratory judgment that the '393 patent was invalid. Respondent counterclaimed, alleging that petitioners were infringing the patent. Pet. App. 7a. After a 49-day trial and 13 days of deliberations, a jury reached a verdict in favor of respondent. *Id.* at 7a-8a. Two issues are of primary importance here.

a. First, 35 U.S.C. 112 provides that

> [t]he specification [in the patent application] shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.

The "written description" component of that requirement must "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*." *Vas-Cath Inc.* v. *Mahurkar*, 935 F.2d 1555, 1563-1564 (Fed. Cir. 1991).

Petitioners asserted that, because the claims of the '393 patent were substantially revised from those included in the original patent application, the patent application failed to supply a "written description" sufficient to show that respondent was in possession of the claimed invention as of the filing date of the patent application. Indeed, a primary argument of petitioners before this Court is that the claims of the '393 patent are derived from the 1991 CARB standards, rather than from the invention as described in the patent application in 1990. See, *e.g.*, Pet. 3, 14.

In a special verdict, the jury found that the written description requirement was satisfied by each of the 41 claims of the '393 patent. Pet. App. 8a. The trial court denied petitioners' post-trial motion for judgment as a matter of law on that point, finding "that substantial evidence exists in the record regarding the written description to support the verdict that [the inventors] had possession of the claimed subject matter." *Id.* at 54a.

b. Second, 35 U.S.C. 102(b) sets forth an "anticipation" requirement, which provides that a patent is valid unless "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent." Petitioners argued that the '393 patent was anticipated, because the compositions that it taught had in fact been used in aviation and racing fuels long before the '393 patent application was filed. The district court denied petitioners' summary judgment on that point, however, construing the claims of the patent to extend only to "unleaded gasoline fuels intended for regular use in automobiles, *i.e.*, traditional motor gasoline to be mass-produced at typical refineries for the general motoring public." Pet. App. 47a. The court held that, as so con-

strued, there remained a factual issue regarding "whether the patent merely reveals new properties of a previous invention * * * or whether it teaches a new process defined by the properties of the resulting composition." *Id.* at 46a. That issue was submitted to the jury, which found that none of the 41 claims was anticipated by prior art. *Id.* at 8a. The district court denied petitioners' post-trial motion for judgment as a matter of law on the anticipation issue. *Id.* at 51a-53a.

4. A divided panel of the court of appeals affirmed. Pet. App. 1a-31a.

a. With respect to the written description requirement, the court noted that that requirement "does not require the applicant to describe exactly the subject matter claimed" and that the "primary consideration is *factual* and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure." Pet. App. 13a. See also *id.* at 22a (referring to "the fact-sensitive nature of the written description inquiry"). The court stated that the '393 patent "teaches that changes in the proportions of different hydrocarbon-containing streams mixed to produce gasoline with specific properties reduces the amount of [emissions] from an automobile engine." *Id.* at 14a. Accordingly, "the patent claims its inventive products in terms of ranges of chemical properties, which work in combination with ranges of other chemical properties to produce a gasoline that reduces emissions." *Ibid.*

The court rejected the argument that "range" claims of the sort made by the '393 patent violate the written description requirement if they do "not describe the exact chemical component of each combination that falls within" the patent's claims. Pet. App. 15a. The court gave examples of the ways in which limitations in two

claims in the '393 patent were supported by the teachings recited in the patent's specifications. *Id.* at 16a-17a. The court also explained that the relevant question is "whether one of skill in the art could derive the claimed ranges from the parent's disclosure," not whether "the ranges in applicant's claims * * * correspond exactly to those disclosed in the parent application." *Id.* at 22a.

b. With respect to the anticipation argument, the court of appeals noted that the '393 patent "claims compositions of matter," and that "[t]he scope of these composition claims cannot * * * embrace only certain uses of that composition." Pet. App. 10a. The court examined the district court's construction of the patent, and it concluded that the district court "refus[ed] to narrow the scope of the claimed compositions to specific uses." *Ibid.* In particular, the court explained that the district court "construed the claims to cover only a narrow class of fuel compositions, namely only standard automotive gasoline," and that the court "correctly excluded from claim scope a broader class of petroleum formulations such as aviation fuels or racing fuels." *Ibid.*

The court of appeals found support for the district court's construction in the language used in the preamble to each of the claims, which refers to an "unleaded gasoline" and one that is "suitable for combustion in an automotive engine" or "in a spark ignition automotive engine." Pet. App. 10a. The court also noted that the specification described the problem addressed by the patent ("atmospheric pollution * * * caused by the emission of gaseous pollutants in the exhaust gases from automobiles") as one involving ordinary automobiles, and it noted that "ordinary passenger automobiles" had been used in the tests leading up to

the invention. *Id.* at 11a. Because "the '393 patent covers only standard automotive fuel," the court agreed with the district court (and found substantial support for the jury's conclusion) that "the aviation and racing fuels that allegedly invalidate the '393 claims do not anticipate because they do not contain each and every limitation of the claims." *Id.* at 12a. Indeed, even aside from the limitation to standard automotive fuels, the court concluded that "the record does not show that the aviation and racing fuels otherwise have the claimed characteristics of the particular standard automotive fuels recited in the '393 patent." *Ibid.*

c. Judge Lourie dissented from the majority's holding with respect to the written description requirement. Pet. App. 24a-31a. He did not address the anticipation issue. See *id.* at 24a.

Judge Lourie stated that the written description requirement requires "a precise description in the text of the patent specification of all of the aspects of the claimed invention." Pet. App. 25a. He agreed with the majority "that a patent need not describe the claimed subject matter in precisely the same terms as used in the claims," but "it must still describe the invention with all its claimed limitations in some manner." *Id.* at 26a. With respect to the '393 patent, Judge Lourie acknowledged that there "surely is a description of most of the particular *claim limitations* of the various claims," but he argued that "that is not the same as a description of a *specific composition* described by a particular selection of those characteristics." *Ibid.* Referring to the limitations of one of the '393 claims, Judge Lourie noted that "one can * * * find all of the limitations" in that claim in the specification, but "[w]hen one has to pick and choose among a wide range of variables to construct a claim, the subject matter of

that claim has not been described as required by the statute." *Id.* at 28a. In his view, therefore, the majority had "us[ed] enablement reasoning" to find that the patent application satisfied the distinct requirement that the specification adequately described the invention as ultimately claimed. *Id.* at 24a. He concluded that "[n]o reasonable jury, carefully reading and examining the patent specification, could conclude * * * that the patent specification's descriptions of individual fuel characteristics or the teachings that multiple fuel characteristics can be varied in particular ways constitutes a sufficient written description of the compositions of any of the claims." *Id.* at 31a.

**DISCUSSION**

Further review is not warranted. With respect to the written description requirement, the jury's conclusion that the patent application demonstrated that, prior to the CARB process, respondent was in possession of the invention that was ultimately claimed was highly dependent on the specific, and highly technical, facts of this case. With respect to the proper construction of the '393 patent, both lower courts agreed that, in light of the specific terms of the patent specification and claims, the patent should be construed not to cover specialty aviation and racing fuels that may otherwise have anticipated the claimed invention. In our view, although both of those issues present close questions, they involve only the meaning of the particular disclosures in the specifications of the '393 patent and the correct construction of that patent's claims. The ultimate importance of the '393 patent is not yet entirely clear. Even if it is as significant as petitioners fear, however, this Court's review is not warranted to address relatively narrow issues regarding the particular terms of a particular patent.

We share petitioners' and amici's concern about possible misuse of the regulatory process by a patent applicant. Moreover, it is important that protections afforded to competitors and to the public against inequitable conduct by patent holders be enforced. We do not believe, however, that the court of appeals decided any legal issue or altered settled legal principles in a way that would likely encourage misuse or inequitable conduct by patent holders in the future.

1. a. The written description requirement of 35 U.S.C. 112 is intended to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed. See, *e.g.*, *Vas-Cath Inc.* v. *Mahurkar*, 935 F.2d at 1563-1564; *In re Wertheim*, 541 F.2d 257, 262 (C.C.P.A. 1976). It thereby guards against overreaching by the inventor, "by insisting that he recount his invention in such detail that his future claims can be determined to be encompassed within his original creation." *Rengo Co.* v. *Molins Mach. Co.*, 657 F.2d 535, 551 (3d Cir.) (quoted in *Vas-Cath*, 935 F.2d at 1561), cert. denied, 454 U.S. 1055 (1981). The written description requirement of Section 112 is distinct from the "enablement" requirement of the same Section, which requires the description to be sufficient to enable one skilled in the art to practice the invention. *Evans* v. *Eaton*, 20 U.S. (7 Wheat.) 356, 433-434 (1822) (decided under the Patent Act of 1793, ch. 11, 1 Stat. 318, which did not require presenting claims to an invention); see also *Universal Oil Products Co.* v. *Globe Oil & Refining Co.*, 322 U.S. 471, 484 (1944).

Both the majority and the dissenting opinions in the court below described the question whether a written description is sufficient as highly fact-specific. The majority referred to "the often cited rule that written description questions are intensely factual, and should

be dealt with on a case-by-case basis, without the application of wooden rules." Pet. App. 21a; see also *id.* at 22a ("Because of the fact-sensitive nature of the written description inquiry, this court has often warned against misapplication of precedents in this area."). The dissenting judge similarly noted the "case-by-case analysis" that must be applied to questions regarding the adequacy of the written description in a patent, and he acknowledged "that the written description requirement is a question of fact concerning which we owe considerable deference." *Id.* at 30a. See also *Vas-Cath*, 935 F.2d at 1562 ("The primary consideration is *factual*."); *In re Driscoll*, 562 F.2d 1245, 1250 (C.C.P.A. 1977) ("the precedential value of cases in this area is extremely limited"); *Wertheim*, 541 F.2d at 263 ("[b]roadly articulated rules are particularly inappropriate in this area"); *In re Smith*, 458 F.2d 1389, 1395 (C.C.P.A. 1972) ("Precisely how close the description must come to comply with § 112 must be left to case-by-case development.").

b. The substance of the written description issue turns on whether there was sufficient evidence supporting the jury's conclusion that the 41 claims of the '393 patent represent merely a narrowing of the originally claimed invention, as opposed to a new invention that would not be entitled to the filing date of the original application. Pet. App. 18a-21a.[2] The invention underlying the '393 patent is asserted to have been

---

[2] Once a patent issues, it is presumed valid. 35 U.S.C. 282 (1994 & Supp. IV 1998), as amended by Patent Term Guarantee Act of 1999, Pub. L. No. 106-113, § 4402(b)(1), 113 Stat. 1501A-560. Accordingly, the burden is on the challenger (petitioners here) to prove invalidity by clear and convincing evidence. *Carella* v. *Starlight Archery & Pro Line Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986).

predicated upon the discovery that there are a number of properties of gasoline that were previously thought to have affected performance, but that the '393 patent teaches have predictable effects on emissions as well. As the court explained, the "patent teaches one of ordinary skill" that reducing certain specific properties of gasoline progressively reduces carbon monoxide and hydrocarbons, while reducing other properties progressively reduces carbon monoxide and nitrogen oxides, "and so forth with several other relationships." *Id.* at 15a. The patent then "claims ranges for these properties that provide cleaner gasoline emissions." *Ibid.* Although the claimed ranges of properties do not inform refiners of the precise chemical makeup of the resulting gasoline mixtures, the court of appeals concluded that "the patentee in this case taught the desired characteristics of the final automotive fuels, realizing that those of skill in this art know that those characteristics define the claimed products." *Id.* at 20a-21a.

Petitioners argue that the written description was inadequate, however, because the 41 claims of the patent as issued differ from the claims in the original application. In particular, petitioners argue that respondent's application simply included "long lists of gasoline properties that in many respects simply corresponded to then-existing legal requirements" for gasoline, that the claims then were amended in a way that "resemble[d]" the CARB requirements, and that "[t]hose amendments contradicted the teachings of [respondent's] patent application." Pet. 15.[3] Of course,

---

[3] Petitioners repeatedly quote the word "resemble" in arguing that respondent "participated with the rest of the oil industry in CARB's decision-making process, waited for CARB to make its regulatory decisions, and then scrapped all of the original claims

modification of the claims of a patent during prosecution is an accepted practice, for a variety of reasons. See, *e.g.*, 35 U.S.C. 132; 37 C.F.R. 1.111. As petitioners (and the dissenting judge) see it, however, the '393 application merely defined a large number of gasoline mixtures (a whole forest of "unmarked trees," in the commonly used metaphor adapted from *In re Ruschig*, 379 F.2d 990, 994-995 (C.C.P.A. 1967)), in the hope that some of them might turn out to be genuinely useful (*i.e.*, the "blaze marks" in the *Ruschig* metaphor that are a "help in finding one's way through the woods," *ibid.*). As it turned out the useful ones "resembled" those that emerged from the CARB process.

Regardless of which view is correct regarding the adequacy of the written description in the '393 patent, the issue does not warrant review by this Court. The Federal Circuit did not purport to eliminate or weaken the requirement that the written description in a patent application must describe the invention as ultimately embodied in the claims of the issued patent. Nor did it purport to hold that a laundry list of claimed combinations that do not point specifically to the claims of the issued patent would constitute a sufficient

---

and substituted amended claims to 'resemble' the CARB regulations." Pet. 14; see also Pet. 2, 3, 4, 7, 15, 18. If, as the courts below held, respondent had a patentable invention at the time of the '393 patent application, the fact that respondent later narrowed the claims of that invention to focus on its most useful commercial applications would not render the '393 patent invalid. In any event, although petitioners do not provide the record citation for the term "resemble," a review of the passage on which they apparently rely indicates that it is ambiguous as to whether the claims were narrowed for the purpose of resembling the CARB regulations or whether they were narrowed in a way that simply had that effect. We have provided the relevant excerpt from the testimony in an Appendix to this Brief.

written description. The Federal Circuit's decision thus leaves in place the important safeguards in patent law that petitioners emphasize. See Pet. 16.[4]

In these circumstances, review by this Court would simply provide another opportunity to review the application of the settled legal principles, on which petitioners and the court of appeals largely agree, to the particular facts of this case. As noted above, the question whether a written description is sufficient is exceptionally closely tied to the particular circumstances of each case. Further review of that issue, therefore, is particularly unlikely to assist in developing generally applicable legal principles in this area. The '393 patent may well be an important one, although it is impossible to know with certainty the extent to which refiners will find ways to produce non-infringing reformulated gasoline that complies with the CARB—or other—standards.[5] But the validity of the '393 patent is not in

---

[4] Petitioners state (Pet. 16) that the court of appeals' decision was an "evisceration of the long-standing doctrine under § 112 that stood as the only bulwark against gaming of the regulatory and patent regimes." We agree that Section 112 states important requirements that protect the public against patent monopolies that are unjustified by the purposes of patent law. We do not agree, however, that Section 112 is particularly directed toward "gaming of the regulatory and patent regimes," or that it is the "only bulwark" against such conduct. Other requirements of patent law, such as the requirement that the patentee himself be the inventor, see 35 U.S.C. 102(f), similarly serve to protect the public against such "gaming," as well as against other evils that would be attendant on unjustified grants of patent rights.

[5] On February 16, 1994, the Environmental Protection Agency published regulations for reformulated gasoline designed to reduce emissions in designated areas throughout the country, 40 C.F.R. 80.41, as well as regulations for determining compliance using an emissions model that calculates performance by looking at the levels of several components of gasoline. 40 C.F.R. 80.45. EPA

itself "an important federal question" that "has not been, but should be, settled by this Court." Sup. Ct. R. 10(c).[6]

2. For similar reasons, further review is not warranted with respect to the anticipation issue. As the parties recognize, that issue turns on the construction of the patent claims in this case. If the claims of the '393 patent apply to all fuels that are capable of being used in internal combustion engines, then they may well have been anticipated by the references to racing and aviation fuels that long predated the patent application here. On the other hand, if the claims of the '393 patent are limited to "a narrow class of fuel compositions, namely only standard automotive gasoline," Pet. App. 10a, then the references to racing and aviation fuels would not be invalidating.

The courts below relied on a number of features present in the patent application to find that the term "[a]n unleaded gasoline fuel suitable for combustion in an automotive engine" (or "in a spark ignition automotive engine"), Pet. App. 10a, point clearly to a composition of matter that is distinct from the kinds of compositions that are used in aviation or racing fuel. The district court recognized that "'suitable for combustion in an automotive engine' can be stretched to include any fuel

---

developed its regulations after the CARB process had begun. Petitioners assert (Pet. 9) that respondent "will doubtless argue" that reformulated gasolines that comply with EPA's regulations "infringe[] [respondent's] patents" that followed the '393 patent.

[6] Amici States (Br. 3) state that respondent has obtained four patents similar to the '393 patent, and that "the potential is there for [respondent] to control the entire Nation's gasoline market." We take no position on the validity or significance of those patents. We note, however, that Congress could require a patentholder in that situation to license its patent at just and reasonable rates. See *FCC* v. *Florida Power Co.*, 480 U.S. 245, 253-254 (1987).

that *could be burned.*" *Id.* at 41a. But both courts found "extensive support," *id.* at 11a, for a narrower construction in the patent application's description of the automobile emissions problem addressed by their invention, its comparisons of the claimed gasolines to "typical gasoline fuel," its description of the benefits to be obtained from use of the claimed gasolines, and its use of ordinary passenger automobiles in testing the claimed fuel. See *id.* at 11a-12a, 36a-39a.

Petitioners argue (Pet. 19-26) that the patent may not fairly be read to include the limitation to standard automotive fuels adopted by the court of appeals. They argue that the key phrase in the claims describes a fuel "suitable for combustion" in an automobile, and that the clear meaning of that phrase would include aviation and racing fuels that can be—and sometimes are—used in a standard automobile engine. Although the court of appeals disagreed with petitioners on that point, the court adopted the key legal principles relied upon by petitioners. For example, petitioners rely (Pet. i) on the principles that a court may not "include elements not mentioned in the claim in order to limit such claim and avoid a defence of anticipation," *McCarty* v. *Lehigh Valley R.R.*, 160 U.S. 110, 116 (1895), and that "[i]t is not invention to perceive that the product which others had discovered" could be used in ways not previously perceived, *General Elec. Co.* v. *Jewel Incandescent Lamp Co.*, 326 U.S. 242, 249 (1945). There was, however, no disagreement about those principles here. The court of appeals agreed that claims could not be altered by construction, stating that the "constuction of claims is simply a way of elaborating the normally terse claim language[] in order to understand and explain, but not to change, the scope of the claims." Pet. App. 10a (quoting *Scripps Clinic & Research Found.* v. *Genentech,*

*Inc.*, 927 F.2d 1565, 1580 (Fed. Cir. 1991)). Moreover, the court expressly held that "[t]he scope of these composition claims cannot * * * embrace only certain uses of that composition," thus recognizing that merely finding an obvious new use for an existing product is not an invention. Pet. App. 10a.[7]

Given the agreement on the general nature of the rules governing the construction of patent claims, this case simply presents the question whether the courts below erred in construing the particular terms of the '393 patent. In our view, reasonable minds could differ on that question. But it is difficult to imagine a case in which the construction of the claims of a particular patent would present an issue sufficiently important to warrant this Court's attention. In any event, as we explained above, although the '393 patent may turn out to be a very important one, its precise effect on the gasoline market remains uncertain, and it is not of sufficient general importance to warrant this Court's review.

3. Petitioners argue (Pet. 15) that respondent engaged in "gaming of the regulatory * * * process" by filing a broad patent application, participating in the CARB regulatory process without disclosing its patent application, and then modifying the claims in the application to more closely resemble the requirements that CARB adopted. We share the concern expressed by petitioners and amici that a party could attempt to employ the patent laws to take unfair advantage of an

---

[7] Petitioners assert (Pet. 25) that the court of appeals "narrow[ed] [the] patent claims to avoid invalidity." The court's construction of the patent, however, was not based on a desire "to avoid invalidity," but on the court's perception that its construction was "confirm[ed]" by the claim language and found "extensive support in the specification." Pet. App. 10a-11a.

open regulatory process. The federal and state governments have come increasingly to explore possibilities for developing rules through open and voluntary consensual processes involving all affected parties. Members of a regulated industry may well be reluctant to bring their own technical knowledge and policy views to such a public forum if they fear that their competitors will use the shared information about technologies and regulatory strategies to craft overly broad patents. Thus, the threats posed by "gaming" the regulatory process could operate as a serious disincentive to industries to participate in the kinds of alternative rulemaking strategies that are clearly in the public interest.

Although we share the concerns of petitioners and amici, we do not think that the narrow legal questions presented in the petition for certiorari present an appropriate vehicle to address those concerns. Petitioners rely solely on the "written description" requirement in 35 U.S.C. 112 to address what they view to have been respondent's "gaming." But the "written description" requirement does not vary depending on whether a governmental entity ultimately determines that practicing the patented invention is a useful (or even the only) way to satisfy a legal requirement. The fact that an invention is particularly useful in satisfying a government clean air or other standard certainly does not lessen the value of the invention to society or the patent protection that it should be afforded. Thus, if respondent "had possession" of the claims of the '393 patent as of the December 1990 filing date of the patent application, as the courts below held, the subsequent adoption of regulations would not have any effect on the

sufficiency of the written description for patentability purposes.[8]

That is not to say that there are no mechanisms available to address "gaming" of a regulatory system. It has long been accepted that misuse of a patent or inequitable conduct before the Patent Office can render a patent unenforceable. See, *e.g.*, *Zenith Radio Corp.* v. *Hazeltine Research, Inc.*, 395 U.S. 100, 135-141 (1969) (patent misuse); *Precision Instrument Mfg. Co.* v. *Automotive Maint. Mach. Co.*, 324 U.S. 806 (1945) (inequitable conduct); see also Pet. App. 22a-23a (rejecting petitioners' argument that respondent engaged in "inequitable conduct"). Petitioners, however, do not present a claim of patent misuse, which in any event typically involves the exploitation of patent protection by the patentee. Petitioners do not argue that the "patent misuse" doctrine should be expanded to include the conduct they allege in this case, nor do they outline the contours of liability under such a doctrine or the

---

[8] The fact that respondent's disclosure was broader than the 41 claims now at issue is similarly of no moment if the 41 allowed claims are sufficiently described in the specification. See *Wertheim*, 541 F.2d at 263 ("That what appellants claim as patentable to them is *less* than what they describe as their invention is not conclusive if their specification also reasonably describes that which they do claim. Inventions are constantly made which turn out not to be patentable, and applicants frequently discover during the course of prosecution that only a part of what they invented and originally claimed is patentable."); *In re Saunders*, 444 F.2d 599, 607 (C.C.P.A. 1971) (recognizing right of applicant initially claiming broad genus "to retreat to an otherwise patentable species" by narrowing claims during prosecution). Therefore, even if respondent's claims were amended to "resemble" the CARB regulations, as long as the amended claims are sufficiently described in the originally filed specification, the reason for amendment is not a fact that will affect the patentability analysis under 35 U.S.C. 112.

legal consequences that would flow from a finding that it occurred. Nor do petitioners argue before this Court that fraud was committed on the Patent Office itself.

Another potentially relevant means to challenge a patent would be the requirement of 35 U.S.C. 102(f) that a patent is invalid if the patentee "did not himself invent the subject matter sought to be patented." The district court, however, rejected petitioners' derivation argument under Section 102(f) in this case, finding that "[n]o competent evidence was introduced in support of th[e] argument" that respondent "had copied the invention from CARB." *Union Oil Co.* v. *Atlantic Richfield Co.*, 34 F. Supp. 2d 1208, 1224 (C.D. Cal. 1998). Indeed, the district court sanctioned petitioners in part for their failure to make good on their commitment to the court to produce evidence on that point. *Ibid.* Petitioners did not preserve that issue on appeal and have not presented it in their petition for certiorari.

Similarly, other government agencies, such as the Federal Trade Commission, may impose non-patent remedies against parties who make affirmative misrepresentations to a public or private regulatory body involved in setting industry standards. See *In re Dell Computer Corp.*, 121 F.T.C. 616 (1996) (sanctioning firm for making an affirmative misrepresentation to a nonprofit association that it had no intellectual property that would be affected by an upcoming industry standard, while concealing its issued patent whose claims covered portions of the industry standard). Those remedies too are not at issue in this case.[9]

---

[9] Petitioners rely (Pet. 14) on *SmithKline Beecham Consumer Healthcare, L.P.* v. *Watson Pharm., Inc.*, 211 F.3d 21 (2d Cir.), cert. denied, 121 S. Ct. 173 (2000), for the proposition that a copyright that covers a matter required by regulation—labels on medicine—supports their contention that the issuance of regulations by

What is at issue in this case are essentially fact-specific questions concerning the application of settled legal standards in patent law to the particular terms of what may be a very significant patent. This case does not present a suitable vehicle for this Court to address the larger problems surrounding the intersection of the patent and regulatory processes that petitioners and amici seek to raise.

## CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

SETH P. WAXMAN
*Solicitor General*
DAVID W. OGDEN
*Assistant Attorney General*
LAWRENCE G. WALLACE
*Deputy Solicitor General*
JAMES A. FELDMAN
*Assistant to the Solicitor General*
BARBARA BIDDLE
ALFRED MOLLIN
*Attorneys*

ALBIN F. DROST
*Acting General Counsel*
JOHN M. WHEALAN
*Solicitor*
LINDA MONCYS ISACSON
MARK NAGUMO
*Associate Solicitors*
*United States Patent and Trademark Office*

JANUARY 2001

---

CARB has a bearing upon the validity of the '393 patent. *SmithKline*, however, concerned whether a federal statute concerning generic drugs (21 U.S.C. 355(j) (1988)) had the effect of creating an exception in the copyright law for labels on generic drugs. This case involves the patent laws, not the copyright laws, and there is no issue in this case concerning the possible effect of another federal statute on the patent protection that should be afforded respondent.

## APPENDIX

The following testimony of Dr. Peter J. Jessup is reprinted from C.A. App. 562-563:

Q: BY MR. KEKER:

After the CARB regulations, and that is the California Air Resources Board regulations, came out in November of 1991, were the claims that still remained in your patent changed completely to copy the RVP, the T50 and the olefin numbers of the Air Resources Board regulations?

MR. CIRESI: Objection, your Honor.

THE COURT: That was the same question.

MR. KEKER: Yes, ma'am.

THE COURT: All right. Overruled.

THE WITNESS: Okay. Some of our claims were narrowed. Some of our claims were broader than the CARB regulations. Some of them were narrowed at various times to resemble the CARB regulations, but they were never copied from the CARB regulations.

That's rather a strange thing to say.

Q: Were the numbers that you used in the claims for RVP and T50 and olefins taken from the numbers that the Air Resources Board used in their regulations?

A: No, we never did that.

Supreme Court, U.S.
FILED
JAN 31 2001
OFFICE OF THE CLERK

(9)

No. 00-249

IN THE

# Supreme Court of the United States

ATLANTIC RICHFIELD COMPANY, CHEVRON U.S.A., INC., EXXON MOBIL CORPORATION, MOBIL OIL CORPORATION, SHELL OIL PRODUCTS COMPANY, AND TEXACO REFINING AND MARKETING, INC.

*Petitioners,*

v.

UNION OIL COMPANY OF CALIFORNIA

*Respondent.*

**On Petition For a Writ of Certiorari To the United States Court of Appeals For the Federal Circuit**

## PETITIONERS SUPPLEMENTAL BRIEF

HARRY C. MARCUS
BARTHOLOMEW VERDIRAME
MORGAN & FINNEGAN, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

DONALD R. DUNNER
FORD F. FARABOW
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. EDWARD BRUCE
*(Counsel of Record)*
CHRISTOPHER N. SIPES
KEITH A. NOREIKA
COVINGTON & BURLING
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

*Attorneys for Petitioners*

12pp

## TABLE OF AUTHORITIES

**Page(s)**

### *Cases*

*Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997) ..... 6

*General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945) ..... 8

*Gill v. Wells*, 89 U.S. (22 Wall.) 1 (1874) ..... 6

*McCarty v. Lehigh Valley Railroad*, 160 U.S. 110 (1895) ..... 8, 9, 10

*Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co.*, 315 U.S. 759 (1942) ..... 6, 7

*Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806 (1945) ..... 5

*In re Ruschig*, 379 F.2d 990 (C.C.P.A. 1967) ..... 3

*Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47 (1938) ..... 6

*Zenith Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100 (1969) ..... 5

### *Statutes*

35 U.S.C. § 102 ..... 6, 8

35 U.S.C. § 112 ..... 4, 5, 6, 7, 9

### *Miscellaneous*

Donald S. Chisum, CHISUM ON PATENTS ..... 8

## PETITIONERS SUPPLEMENTAL BRIEF

Petitioners (hereafter "Refiners") reply to the amicus curiae brief filed by the United States on January 19, in response to the Court's October 16, 2000, request.

1. Refiners and their supporting amici provided the Court with three reasons to grant the petition:

*Impact on regulatory processes* – "Unocal's prosecution of this patent distorted and abused California's administrative regulatory process, and provides a model for similar mischief in a variety of important environmental and consumer protection contexts." States Br. 1. *See also* Pet. 10-11.

*Impact on the public* – "[T]he Federal Circuit's decision potentially allows Unocal to . . . significantly increase the price consumers pay for gasolines." States Br. at 1. *See also* Pet. 9-10. Alternatively, if Refiners seek to blend around the Unocal patent, as the Government suggests, US Br. 13, General Motors reports that there would be significant adverse air quality impacts. *See* GM Br. 7-11. Either way, the public will be injured by the Unocal patent.

*Impact on the parties* – The Unocal patent, together with four successor patents, contain 800 claims that seek to blanket regulatory requirements not only in California, but also throughout the United States under the EPA Phase II Clean Air Act requirements. API Br. 5-6. While the Refiners have already been held liable for $83 million on one patent for just five months in only California, Pet. 5, Unocal's patents threaten all other refiners, distributors, retailers, and even consumers of gasoline throughout the United States. API Br. 6. *See also* Cong. Br. 4.

Confronted with the views of 34 states, various members of Congress, the petroleum industry, and the nation's largest automobile manufacturer regarding the

impacts of the Unocal patent, the Government states that it "share[s] petitioners' and amici's concern about possible misuse of the regulatory process by a patent applicant." US Br. 9. *See also id.* at 17 (reiterating that concern and identifying an additional "threat[] posed by 'gaming' the regulatory process" through patenting). Moreover, the Government concedes that Unocal's "patent may turn out to be a very important one." *Id.* at 16. Nonetheless, the Government concludes that "[e]ven if [Unocal's patent] is as significant as petitioners fear . . . this Court's review is not warranted . . . ." *Id.* at 8.

The Government does *not* justify this surprising conclusion on the ground that the court of appeals correctly decided this case, but instead concedes that "both of [the] issues present close questions." *Id.* Thus, the sole predicate for the Government's recommended denial of the petition is that the case raises "relatively narrow issues regarding the particular terms of a particular patent." *Id.*[1] As we will show, the Government's own brief belies that description of this case and in fact reinforces Refiners' and amici's arguments that this Court should hear this case.

2. *Written description.* As the Government recognizes, the fundamental question in any written description case is whether "the inventor had possession, as of the filing date of the application relied on, of the *specific* subject matter later claimed." *Id.* at 9 (emphasis added). In this case, the facts indisputably show – with or without

---

[1] The Government's Statement is carefully tailored to support this recommendation. *See, e.g.*, US Br. 1, reporting that "*some*" of the 41 claims "are similar to the CARB regulat[ions]," whereas virtually all have the same low RVP, high T10, 4-6-10% olefins, or high paraffins of the CARB regulations. Pet. App. 62a-64a.

Unocal's testimony[2] – that Unocal's claims were amended after CARB's regulations in ways contrary to the teachings of the patent and bear an unmistakable resemblance to the CARB regulations. Pet. 3-4, 15. Moreover, these amended claims were an infinitesimal part of the universe encompassed by an application that was filed to capitalize on future CARB regulations, JA379 (attached to GM Reply of Sept. 26, 2000), and recited ranges of properties corresponding to then-existing legal requirements – e.g., *every* value of olefins from the 15% legal maximum to zero, JA465. *See* Pet. 15.

These undisputed facts establish, or at least strongly suggest, under *In re Ruschig*, 379 F.2d 990 (C.C.P.A. 1967), which the Government acknowledges as binding authority, US Br. 12, that Unocal did not have "possession" of the CARB-inspired claims at the time the application was filed; it was the 1991 CARB regulations – not the "blazemarks" in the 1990 patent application – that explain the 4-6-10% olefins limitations of the amended claims, when the patent taught 0%, as well as the 158°F T10 limitation, when the patent taught ≤140°F. *See* Pet. 3-4, 15-16. The court of appeals, however, by its *complete* disregard of these facts, treated as irrelevant Unocal's amendment of its claims after the publication of CARB's regulations.

Like Unocal, the Government relies upon the silence of the Federal Circuit in disposing of the written description argument in this case, arguing that it "did not *purport* to eliminate or weaken the [written description]

---

[2] The Government attaches the testimony, cited at Pet. 3, of one of Unocal's "inventors" regarding the resemblance that its amended claims bear to the CARB regulations. The testimony that Unocal's claims were "narrowed" – a contention reiterated by the Government, US Br. 11,12 n.3 – and that "we never" took CARB's numbers for RVP, T50, and olefins cannot be squared with the undisputed facts. *See* Pet. 3-4, 15-16.

requirement . . . [n]or did it *purport* to hold that a laundry list . . . would constitute a sufficient written description." US Br. 12-13 (emphasis added). On this basis, the Government proclaims that the court of appeals has left "in place the important safeguards in patent law that petitioners emphasize," *id.* at 13, and even argues that Refiners and the Federal Circuit "largely agree" on the "settled legal principles" governing this case, *id.* The Federal Circuit's silent destruction of § 112 as protection against regulatory abuse is *not* a legal principle with which Refiners, 34 states, and the other amici agree.

However, the United States does. In a brief that bears the names of the Acting General Counsel, Solicitor, and two other lawyers of the Patent and Trademark Office ("PTO"), the Government proclaims the irrelevance of copying regulations even in a § 112 written description case like this one, where a regulatory agency – not the application – provides the blazemarks to the amended claims:

> [E]ven if [Unocal's] claims were amended to "resemble" the CARB regulations, as long as the amended claims are sufficiently described in the originally filed specification, the reason for amendment is not a fact that will affect the patentability analysis of 35 U.S.C. 112.

US Br. 18 n.8. *See also id.* at 17 ("the subsequent adoption of regulations would not have any effect" under § 112).

These representations make even clearer what was already apparent from the Federal Circuit's decision in this case: Unless this Court reverses the Federal Circuit, the PTO will issue patents where patentholders game the process in the way that occurred here. The copying of regulatory requirements during patent prosecution will be deemed

irrelevant, if there is *anything* in the original application to which the applicant can later point as a "disclosure" of the invention.[3] This stark assertion of the irrelevance of regulation under § 112 – far from diminishing the importance of this case – substantially heightens it, because now there is no doubt about the PTO's position on § 112 in issuing patents.

The Government's attempt to minimize this vitiation of § 112 as a bulwark against gaming of the patent and regulatory processes by pointing to other "mechanisms available to address" this issue, US Br. 18, does not withstand analysis. The patent misuse doctrine applies where a patent holder attempts by anticompetitive conduct to extend its monopoly and has nothing to do with the type of gaming that occurred here. *See Zenith Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135-141 (1969) (cited at US Br. 18). The same is true of inequitable conduct, which prevents the enforcement of patents obtained by fraud on the PTO, not appropriation of regulatory requirements. *See Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806, 818 (1945) (cited at US Br. 18).[4]

---

[3] Here, for example, the Government, US Br. 6, cites the Federal Circuit's holding, Pet. App. 16a-17a, that a T10 of <158°F – which appeared in 16 of the 41 claims, Pet. App. 62a-64a, after CARB decided not to regulate T10 – was "disclosed" by a reference to the pre-existing ASTM standard that governs all automobile fuels, while ignoring the fact that the patent application taught T10 of ≤ 140°F to ≤ 122°F. *See* Pet. 3, 15.

[4] The Government implies that Refiners' regulatory gaming argument was rejected below under the inequitable conduct doctrine. US Br. 18. However, as the opinion of the Federal Circuit shows, *see* Pet. App. 22a-23a, Refiners' inequitable conduct argument concerned Unocal's failure to disclose its own data to the PTO which demonstrated that many of its claims were anticipated by prior art unleaded gasolines.

The Government's reference to 35 U.S.C. § 102(f), US Br. 19, is entirely misplaced. Refiners could have prevailed on a § 102(f) defense only by establishing that the Unocal applicants learned of the CARB regulations *before* they filed their application in December 1990. *See Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1576 (Fed. Cir. 1997). This case presents the issue of Unocal's amendment of its claims *after* November 1991 when CARB published its regulations.

Finally, the Government's excursions into non-patent law – suggesting congressional action to require Unocal to license its patent on terms different than the 5-3/4¢ per-gallon royalty awarded by the jury, US Br. 14 n.6, and referring to the FTC's authority to sanction Unocal if it made "affirmative misrepresentations" to CARB, *id.* at 19 – are off point and self-defeating. Neither justifies the fundamental misapplication of the patent laws that occurred here. Both recognize the significance of the Unocal patent and the questionable nature of Unocal's conduct. Together they make inexplicable the Government's assertion that "[t]his case does not present a suitable vehicle for this Court to address the larger problems surrounding the intersection of the patent and regulatory processes that petitioners and amici seek to raise." US Br. 20.

This Court has, since the 19th Century, recognized that the written description requirement of § 112 limits patent amendments to ensure that the applicant has invented what is later claimed. *See Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47, 57 (1938); *Gill v. Wells*, 89 U.S. (22 Wall.) 1, 26 (1874). *See also Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co.*, 315 U.S. 759, 786 (1942), discussed at Pet. 11.

Given what the Government concedes arguendo to be the significance of the Unocal patent, it is hard to imagine a more "suitable vehicle" to decide whether the Federal Circuit

correctly disregarded the copying of regulations in a § 112 case. The Government's argument that the outcome of the case is "highly dependent on the specific, and highly technical, facts of this case," US Br. 8, and that "written description questions are intensely factual, and should be dealt with on a case-by-case basis," *id.* at 9-10 (quoting the panel majority, Pet. App. 21a), can be asserted in all § 112 cases to shield the Federal Circuit's decisions from this Court's review. In any event, this argument collapses when the undisputed facts reveal the worst-case scenario that occurred here.[5]

As Justice Jackson stated for a unanimous court facing a similar issue in *Muncie Gear*, the patent laws should be interpreted in accordance with "the public interest [that is] sought to be safeguarded by the patent statutes." 315 U.S. at 768. The Federal Circuit's – and now the Government's – conclusion that copying regulations plays no role under § 112 defies that principle and raises an issue that is not only "suitable" for decision by this Court, but is *essential* to prevent the type of abuse of the patent and regulatory processes that occurred in this case.

3. *Claim construction.* The Government's argument with respect to the lower courts' construction of the Unocal patent claims founders on the same ground as its written description argument. Conceding that "reasonable minds could differ on [the claim construction] question," US Br. 16, the Government argues that "although the [Unocal] patent may turn out to be a very important one, its *precise* effect on the gasoline market remains *uncertain*, and it is not of

---

[5] (1) An "invention" that has value only if its use is required by regulations, (2) stemming from a laundry list application that anticipated regulations and contemplated myriad combinations, (3) with blazemarks that pointed away from – not toward – claims that were amended in ways that resemble those regulations.

sufficient general importance to warrant this Court's review," *id.* (emphasis added). But given the impacts of the Unocal patent on both federal and state regulatory processes, the public, the parties, and the 34 states and other amici who have filed briefs in support of the petition, it is wholly unconvincing for the Government to oppose certiorari on the grounds that the Unocal patent's "precise effect . . . remains uncertain."

Moreover, the Government's statement that the Federal Circuit "adopted the key legal principles relied upon by petitioners," *id.* at 15 – including *McCarty v. Lehigh Valley Railroad*, 160 U.S. 110, 116 (1895), which bars the inclusion of elements not mentioned in the claim, and *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 249 (1945), which bars the patenting of an old product based upon newly discovered uses – is contradicted by the very arguments that the Government advances in its brief.

Thus, its contention that "both courts found 'extensive support'" in the patent's "description of the automobile emissions *problem* addressed by [the] invention" and by "its *use* of ordinary passenger automobiles in testing the claimed fuel," US Br. 15 (emphasis added), show that the lower courts' approach to this case *was* premised upon a claim construction that depended upon the new use of an old product, contrary to *General Electric*.[6] The Federal Circuit's

---

[6] The Government's approving quotation of the district court's statement that the factual issue under § 102(b) was "whether [the patent] teaches a new *process* defined by the properties of the resulting composition," US Br. 5 (emphasis added), quoting Pet. App. 46a, actually confirms the error below. Each of the claims at issue here is for a product that is subject to *General Electric*, not for a process. *See* Donald S. Chisum, CHISUM ON PATENTS § 1.03[8][c] at 1-176-77 (1997) ("[P]roduct claims cannot be supported by . . . a new use of an old (...continued)

correct statement, which the Government (*id.* at 16) quotes, that product "claims cannot * * * embrace only certain uses of [a] composition," is flatly at odds with that court's erroneous reasoning upon which the Government relies.

The other "extensive" support found in the patent – *i.e.*, "its comparisons of the claimed gasolines to 'typical gasoline fuel,'" *id.* at 15 – is wrong on two counts:

First, the *only* references in the Unocal patent to "typical gasoline fuel" are (1) its acknowledgement that "typical" gasolines are comprised of olefins, paraffins, and aromatics, whereas the preferred embodiment of Unocal's invention had no olefins and Unocal's amended claims require no aromatics, *see* Refiners' Reply 7; and (2) its comparison of the "reduction in emissions" of the invented fuels to "a typical fuel," JA467. Because Unocal's fuels are not "typical" and because the terms "traditional" or "standard automotive gasoline" are nowhere mentioned in the patent, it is clear that both lower courts violated *McCarty* in limiting Unocal's claims to such fuels.[7]

Second, the phrase "traditional motor gasoline" was read into the claims for the *explicit* purpose of limiting the claims and avoiding the defense of anticipation, as the district court admitted and Unocal has *never* denied. *See* Pet. 22, quoting Pet. App. 52a. The fact that the court of appeals expressed "no disagreement" with *McCarty*, US Br. 15, by the same device that it used in sidestepping Refiners' § 112 argument – *i.e.*, ignoring what the record shows and Refiners

---

product .... [A] process claim may be allowed confined to the new use").

[7] Gasoline does not have to be "typical," "traditional" or "standard" to be "suitable for combustion in an automotive engine," as required by the patent. Unocal touted its own unleaded racing gasoline as "ideal" for "street vehicles." *See* Pet. 22.

vigorously argued below – cannot justify the departure from *McCarty* that occurred here.

## CONCLUSION

For the reasons stated herein, as well as in the petition and the briefs of the 34 state, congressional, petroleum industry, and General Motors amici, the petition should be granted.

Respectfully submitted,

Harry C. Marcus
Bartholomew Verdirame
Morgan & Finnegan, LLP
345 Park Avenue
New York, NY 10154
(212) 758-4800

Donald R. Dunner
Ford F. Farabow
Finnegan, Henderson, Farabow,
Garrett & Dunner, LLP
1300 I Street
Washington, DC 20005
(202) 408-4000

E. Edward Bruce
*(Counsel of Record)*
Christopher N. Sipes
Keith A. Noreika
Covington & Burling
1201 Pennsylvania Ave.
Washington, DC 20004
(202) 662-6000

Attorneys for Petitioners

January 2001